SERVICE MANUAL



HD80/HD80-LV/HD803-LV Series

HD80 Series	HD80, HD803, HD8000, HD800X
HD80-LV Series	HD80-LV, HD8000LV, HD805S
HD803-LV Series	HD803-LV, HD806, HD800X-LV, HD803S

Date	Revise Version	Description
2007.07.19	V1.0	Initial Issue
2007.08.07	V2.0	Edit 2-1, 2-4, 2-11, 4-9
2007.10.07	V3.0	Add HD803
2008.06.13	V4.0	Add HD80-LV, HD803-LV
2009.4.27	V5.0	1. Add HD8000, HD800X, HD800X-LV, HD806, HD803S, HD805S, HD8000LV. 2. Add “Re-write Display Hour“ in CH 2. 3. Modify “Auto Shut Down” in CH 3. 4. Modify “Light Leak” in CH 4-6.
2010.02.22	V6.0	Modify CH 4 "Defect specification table"

 P/N: 36.87Z05G001

SI : Neil TSE: Neil Check: Approved:

HD80/HD803-LV/HD80-LV Comparison List			
Model / Part	HD80	HD803-LV	HD80-LV
FORMATTER BD	80.87Z06G021 (EMEA)	80.87Z06G011	
	80.87Z06G031 (USA)		
SCALER BD	70.87Z21GR01 (USA)	70.87Z25GR01 (USA)	70.87Z31GR01 (USA)
	70.87Z21GR11 (EMEA)	70.87Z35GR01 (EMEA)	70.87Z32GR01 (EMEA)
ENGINE MODULE	70.87Z19GR01	70.87Z29GR01 (USA/EUROPE/UK)	70.87Z19GR01
		70.87Z19GR01 (Others)	
COLOR WHEEL MODULE	70.85H24GR01	70.87Z40GR01	
DMD	48.87CDMGD01	48.87ZDMGD01	48.87CDMGD01

HD80 Series Comparison List				
Model / Part	HD80	HD8000	HD803	HD800X
FORMATTER BD	80.87Z06G021 (EMEA)	80.87Z06G003	80.87Z06G002	80.87Z06G011
	80.87Z06G031 (USA)			
SCALER BD	70.87Z21GR01 (USA)	80.87Z01G004	80.87Z01G003	70.87Z35GR01
	70.87Z21GR11 (EMEA)			
ENGINE MODULE	70.87Z19GR01		70.87Z29GR01	
DMD	48.87CDMGD01		48.87ZDMGD01	

HD803-LV Series Comparison List				
Model / Part	HD800X-LV	HD806	HD803-LV	HD803S
SCALER BD	70.87Z35GR01	70.87Z25GR01	70.87Z25GR01 (USA) 70.87Z35GR01 (EMEA)	70.87Z26GR01
ENGINE MODULE	70.87Z29GR01		70.87Z29GR01 (USA/EUROPE/UK) 70.87Z19GR01 (Others)	70.87Z19GR01
DMD	48.87CDMGD01	48.87ZDMGD01		

HD80-LV Series Comparison List			
Model / Part	HD805S	HD8000LV	HD80-LV
SCALER BD	70.87Z27GR01	70.87Z33GR01	70.87Z31GR01(USA) 70.87Z32GR01(EMEA)

Preface

This manual is applied to HD80/HD80-LV/HD803-LV Series projection system. The manual gives you a brief description of basic technical information to help in service and maintain the product.

Your customers will appreciate the quick response time when you immediately identify problems that occur with our products. We expect your customers will appreciate the service that you offer them.

This manual is for technicians and people who have an electronic background. Please send the product back to the distributor for repairing and do not attempt to do anything that is complex or is not mentioned in the troubleshooting.

Notice:

The information found in this manual is subject to change without prior notice. Any subsequent changes made to the data herein will be incorporated in future edition.

HD80/HD80-LV/HD803-LV Series Service Manual

Manual Version 6.0

Table of Content

Chapter 1 Introduction

Highlight 1-1
Compatible Mode 1-4

Chapter 2 Disassembly Process

Equipment Needed & Product Overview 2-1
Disassemble Lamp Cover 2-2
Disassemble Lamp Module 2-2
Disassemble Lens Shelter and Focus Ring 2-3
Disassemble Top Cover Module 2-3
Disassemble Keypad Board 2-4
Disassemble Vent 2-4
Disassemble Rear Cover 2-5
Disassemble Formatter Board 2-5
Disassemble IRIS Module 2-6
Disassemble Scaler Board 2-6
Disassemble Fan Shetter1 2-7
Disassemble Ballast 2-8
Disassemble Fan Shetter2 2-9
Disassemble Optical Module 2-9
Disassemble Color Wheel 2-10
Disassemble DMD Chip 2-10
Disassemble Zoom Ring Cover 2-11
Disassemble LVPS 2-11
Disassemble Blower 2-12
Disassemble Bottom Cover Module & Elevator 2-12

	Rod Adjustment	2-14
	Re-write Lamp Usage Hour	2-15
	Re-write Display Hour	2-15
Chapter 3	**Troubleshooting**	
	LED Lighting Message	3-1
	Main Procedure	3-2
Chapter 4	**Function Test & Alignment Procedure**	
	Test Equipment Needed	4-1
	Service Mode	4-1
	OSD Reset	4-2
	Test Condition	4-2
	Test Inspection Procedure	4-3
	PC Mode	4-3
	Calibration	4-7
	IRIS Test	4-9
	Optical Performance Measure	4-10
	Video Performance	4-12
	Other	4-13
Chapter 5	**Firmware Upgrade**	
	Equipment Needed	5-1
	Setup Procedure	5-2
	Firmware Upgrade Procedure	5-2

Chapter 6 EDID Upgrade

EDID Introduction 6-1

Equipment Needed 6-2

Setup Procedure (VGA Port) 6-3

DDC Key-In Procedure (VGA Interface) 6-3

Setup Procedure (DVI Port) 6-5

DDC Key-In Procedure (DVI Interface) 6-5

Make sure procedure 6-6

Setup Procedure (HDMI1 Port) 6-7

DDC Key-In Procedure (HDMI1 Interface) 6-7

Make sure procedure 6-8

Setup Procedure (HDMI2 Port) 6-8

DDC Key-In Procedure (HDMI2 Interface) 6-8

Make Sure Procedure 6-9

Appendix A Recommended Spare Parts **I**

Appendix B Serial Number System Definition XIV

PCBA Code Definition XV

Chapter 1

Introduction

1-1 Highlight

No	Item	Description
1	Dimensions (L x W x H)	- 411 x 311 x 116 (mm)
2	Weight	- approx. 10 lbs (< 11lbs)
3	Tilt Angle	- +5/-2 degree with elevator mechanism
4	Power Supply	- Universal AC 100--240V; 50 / 60 Hz with PFC input - Max. 430W (HD80/HD803/HD8000/HD800X) Max. 435W (HD80-LV/HD803-LV/HD8000LV/HD805S/ HD806/HD800X-LV/HD803S) - provide for Philips 300W 1.3 arc UHP E21.8 lamp at brite mode,255W at ECO mode.
5	Light Source	- Lamp could be changed by customer, but should follow the user manual instruction. - Replaceable Lamp should be provided by Coretronic or its autherized agencies
6	Keystone correction	- ±5° Vertical (HD80/HD803/HD8000/HD800X) ±15° Vertical (HD80-LV/HD803-LV/HD8000LV/HD805S/ HD806/HD800X-LV/HD803S) (according to Pixelworks PW392 scalar spec)
7	Cooling system	- Advanced air flow - One fan/ two blowers(in projector) with low system acoustic noise level - Temperature control circuits with adaptive voltage control fan speed - Max touch temperature follows UL60950 regulation
8	Brightness	HD80/HD803/HD8000/HD800X: - Maximum 1,200 ANSI Lumens - Typical 1,000 (HD80/HD8000/HD800X)/ 940(HD803) ANSI Lumens - Minimum 800 ANSI Lumens HD80-LV/HD8000LV/HD805S: - Maximum 2,200 ANSI Lumens - Typical 1,740 ANSI Lumens - Minimum 1,550 ANSI Lumens HD803-LV/ HD806/HD800X-LV/HD803S: - Typical 1,479 ANSI Lumens - Minimum 1,320 ANSI Lumens

No	Item	Description
9	Contrast	HD80/HD803/HD8000/HD800X: - 1,0000:1 full on\full off (with high contrast iris setting), - 4,000:1 (Maximum) - 2,500:1(HD80/HD8000/HD800X)(Typical) 2,200:1(HD803) (Typical) - 2,000:1 (Minimum) HD80-LV/HD8000LV/HD805S: - 7,000:1 full on\full off (with high contrast iris setting), - 3,300:1 (Maximum) - 2,700:1 (Typical) - 2,200:1 (Minimum) HD803-LV/HD806/HD800X-LV/HD803S: - 7,000:1 full on\full off (with high contrast iris setting), - 2,500:1 (Maximum) - 2,000:1 (Typical) - 1,500:1 (Minimum)
10	Uniformity	- 80% Japan standard (Maximum), - 75% Japan standard (Typical), - 65% Japan standard (Minimum)
11	Throw ratio	-1.85 – 2.22:1 distance/width
12	Lamp door protection	- Lamp power supply shut off automatically when door open
13	Projection lens	- F/ 2.6~2.82, f = 39.12~46.94 mm. 1.2X Zoomed Focal Lens
14	Lamp life	HD80/HD803/HD8000/HD800X: - 1,700 hours typical, 50% survival rate in normal mode - 2,200 hours typical in Eco mode HD80-LV/HD8000LV/HD805S/HD803-LV/HD806/ HD800X-LV/HD803S: - 1,250 hours typical, 50% survival rate in normal mode - 1,600 hours typical in Eco mode
15	System controller	- Dual DDP3021, DAD1000, PMD1000 for 1080p DMD.

No	Item	Description
16	Video compatibility	- Standards: NTSC : NTSC M/J, NTSC 4.43 PAL : PAL B/D/I/G/H, PAL M, PAL N SECAM : SECAM B/D/G/K/L SDTV : 480i, 480p, 576i, 576p, HDTV : - HD80/HD803/HD8000/HD800X: 720p(50HZ), 720p(60HZ), 1080i(50HZ), 1080i(60HZ) and 1080p(60HZ) - HD80-LV/HD8000LV/HD805S/HD803-LV/HD806/HD800X-LV/HD803S: 720p(50Hz), 720p(60Hz), 1080i(50Hz), 1080i(60Hz), 1080P (50 & 60Hz) and 1080p-24
17	Intelligent zoom	- By using "TI DDP3021" Chips to provide excellent quality zooming.
18	SXGA / Compression	- By using "DDP3021" Chips to compress SXGA image into XGA display
19	Power consumption	HD80/HD803/HD8000/HD800X: - Full power(normal): typical 425W+/-10% at 110V AC - ECO power(ECO): typical 360W+/-10% at 110V AC - Standby mode: < 7 W at 110V AC HD80-LV/HD8000LV/HD805S/HD803-LV/HD806/HD800X-LV/HD803S: - Full power(normal): typical 435W Max at 110V AC - ECO power(ECO): typical 375W Max at 110V AC - Standby mode: < 14 W at 110V AC

1-2 Compatible Mode

Computer Compatibility (Analog)

HD80/HD803/HD8000/HD800X

Compatibility	Resolution	V-Sync [Hz]
VGA	640x350	70
	640x350	85
	640x400	85
	640x480	60
	640x480	72
	640x480	75
	640x480	80
	720x400	70
	720x400	85
SVGA	800x600	56
	800x600	60
	800x600	72
	800x600	75
	800x600	85
XGA	1024x768	60
	1024x768	70
	1024x768	75
	1024x768	85
WXGA*	1280x720	60
WXGA	1280 x 768	60
	1280 x 768	85
SXGA	1280x1024	60
	1280x1024	75
SXGA+	1400x1050	60
UXGA	1600x1200	60

HD80-LV/HD8000LV/HD805S/HD803-LV/HD806/HD800X-LV/HD803S

Compatibility	Resolution	V-Sync [Hz]
VESA XGA	1024x768	60
	1024x768	85
VESA WXGA	1280 x 768	60
	1280 x 768	72
	1280 x 768	85
HD	1280x720	60
	1280x720	72
VESA SXGA+	1400x1200	60
*MAC	1152x870	60
MAC G4	640x480	75.06
	1024x768	75

Computer Compatibility (Digital)

HD80/HD803/HD8000/HD800X

Compatibility	Resolution	V-Sync [Hz]
VGA	640x480	60
	640x480	72
	640x480	75
	640x480	85
SVGA	800x600	60
	800x600	75
	800x600	85
XGA	1024x768	60
	1024x768	70
	1024x768	75
	1024x768	85
WXGA	1280x768	60
	1280x768	70

Compatibility	Resolution	V-Sync [Hz]
HD	1280 x 720	60
	1280 x 1024	60
	1280 x 1024	75
SXGA+	1400x1050	60
UXGA	1600x1200	60

HD80-LV/HD8000LV/HD805S/HD803-LV/HD806/HD800X-LV/HD803S

Compatibility	Resolution	V-Sync [Hz]
VESA SVGA	800x600	60
	800x600	72
	800x600	75
VESA XGA	1024x768	60
	1024x768	70
	1024x768	75
VESA WXGA	1280 x 720	60
VESA SXGA+	1400x1200	60
*HD	1920x1080	24
	1920x1080	60

Chapter 2

Disassembly Process

2-1 Equipment Needed & Product Overview

1. Screw Bit (+) :107
2. Hex Sleeves 5mm
3. Hex Sleeves 8mm
4. Tweezers
5. Projector

** Before you start: This process is protective level II. Operators should wear electrostatic chains.*

** Note:*

1. *If you need to replace the scaler board, you have to record the lamp usage hour.*
2. *When changing new scaler board, you have to get into the service mode(please refer to the section 4-2) and choose "Temperature" , then hold the "Enter" key to adjust Left(-) and Right(+).*

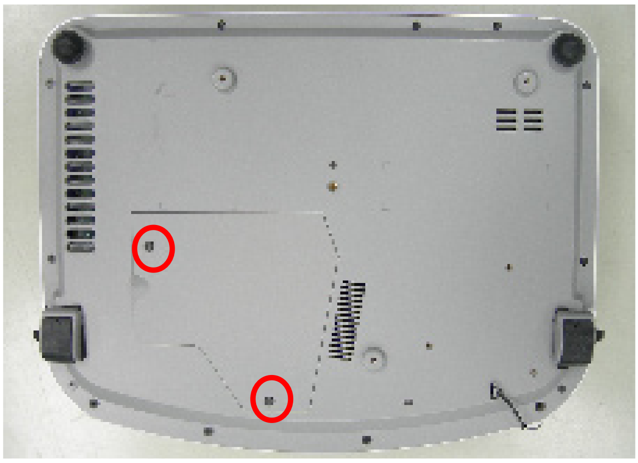


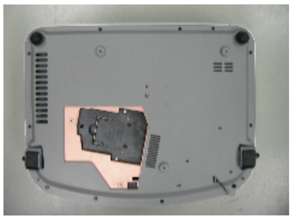




2-2 Disassemble Lamp Cover

1. Unscrew 2 screws on the lamp cover

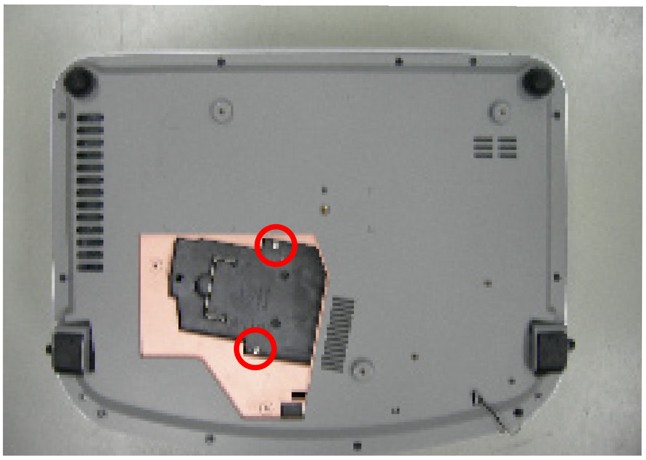


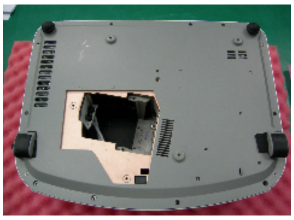




2-3 Disassemble Lamp Module

1. Unscrew 2 screws on the lamp module







2-4 Disassemble Lens Shelter and Focus Ring

1. Press two sides of the lens shelter as red arrows point and take it up.
2. Turn the focus ring in counter-clockwise way and pull out of it.

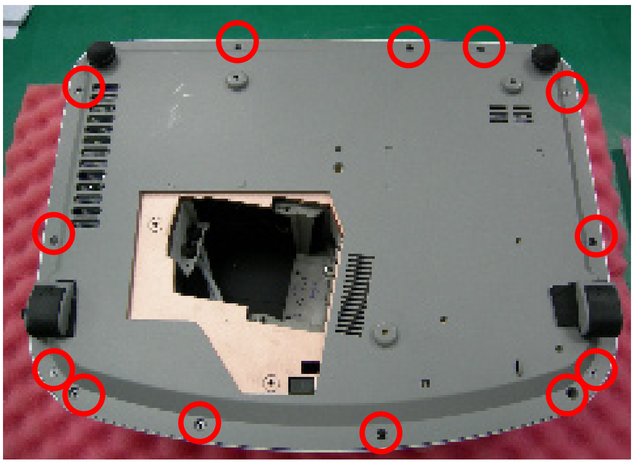






2-5 Disassemble Top Cover Module

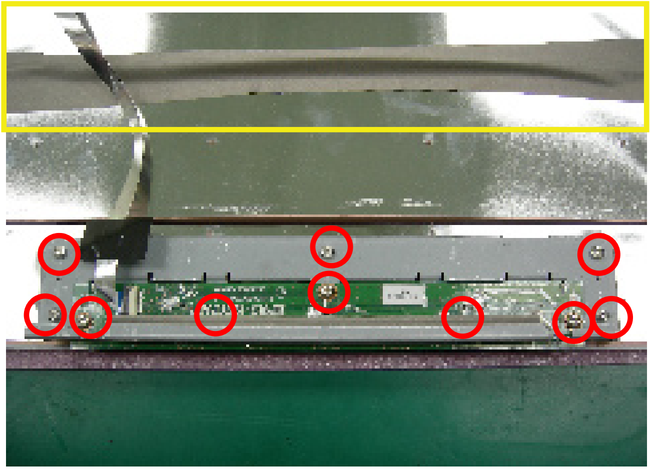
1. Unscrew 13 screws from the Bottom Cover. (as red circle)
2. Unscrew 2 screws from the Rear Cover. (as yellow circle)
3. Unplug 1 FPC Cable.
4. Push forward to remove the Top Cover





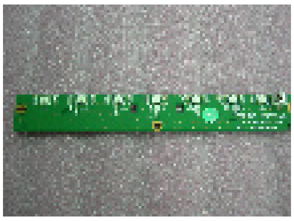


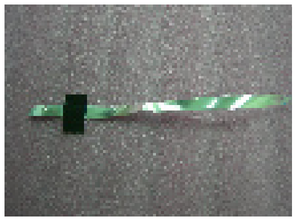
2-6 Disassemble Keypad Board



1. Take off EMI type. (as yellow square)
2. Unscrew 10 screws. (as red circle, three of them on keypad)
3. Unplug 1 FPC cable
4. Remove the Keypad Board.

Note: EMI type can be recycled.

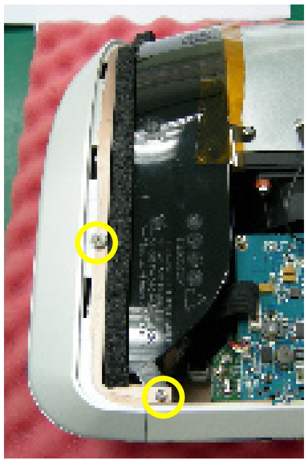




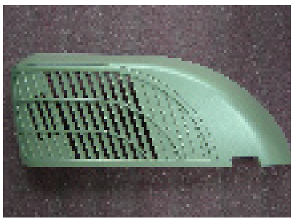


2-7 Disassemble Vent





1. Unscrew 1 screw on the left vent (as red circle)
2. Remove the left vent
3. Unscrew 2 screws on the right vent (as yellow circle)
4. Remove the right vent





2-8 Disassemble Rear Cover

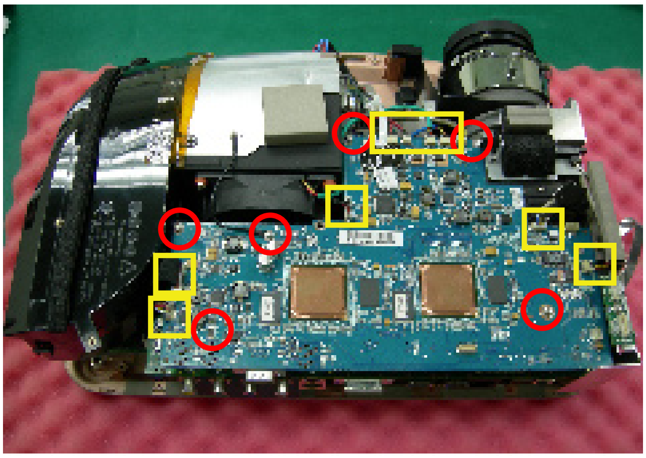
1. Unscrew 4 hex screws (as red circle)
2. Remove the rear cover.

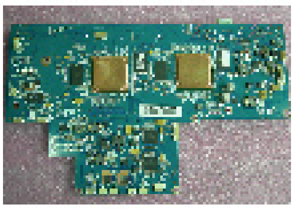




2-9 Disassemble Formatter Board

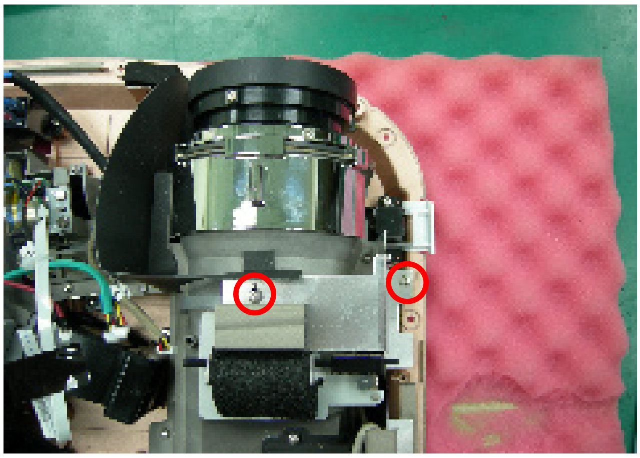
1. Unscrew 6 screws (as red circle)
2. Unplug 11 wires (as yellow square)
3. Remove the formatter board

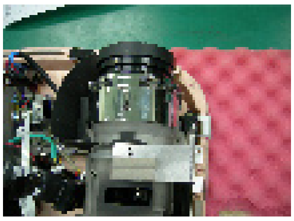


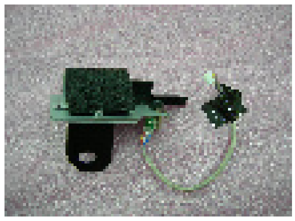


2-10 Disassemble IRIS Moduel

1. Unscrew 2 screws on the IRIS module
2. Remove the IRIS module



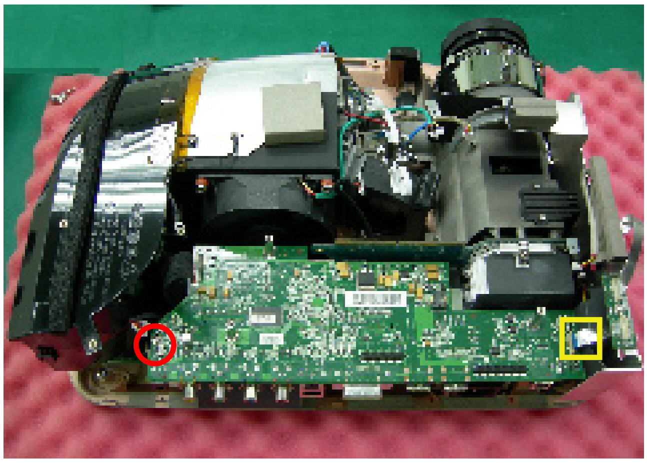


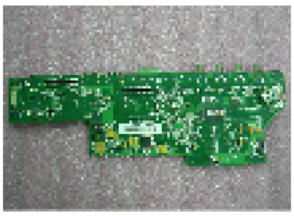


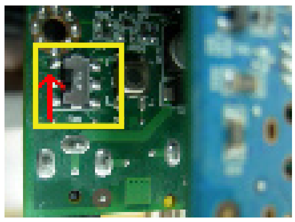
2-11 Disassemble Scaler Board

1. Unscrew 1 screw (as red circle)
2. Unplug 1 FPC cable (as yellow square)
3. Remove the scaler board

Note: The switch should be at “on”location when assembling or replacing the scaler board. (the same direction as red arrow point)

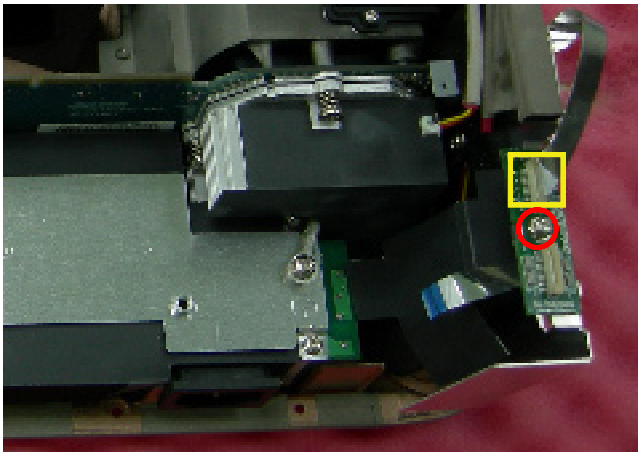


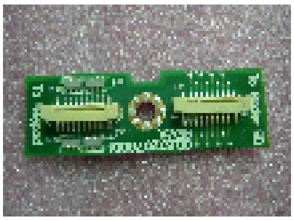




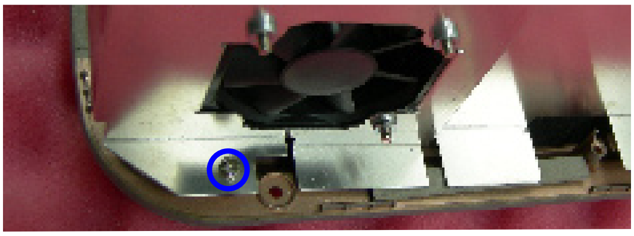
2-12 Disassemble Fan Shelter1

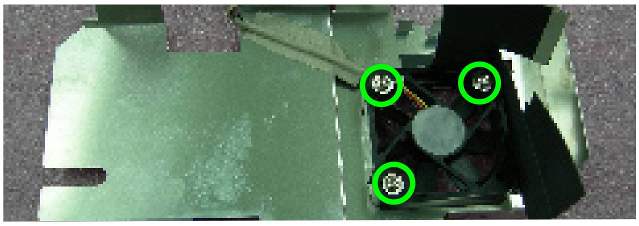
1. Unscrew 1 screw (as red circle)
2. Uplug 1 FPC calble (as yellow square)
3. Remove keypad connector board
4. Unscrew 1 screw (as blue circle)
5. Remove the shelter
6. Unscrew 3 screws (as green circle)
7. Remove the fan1

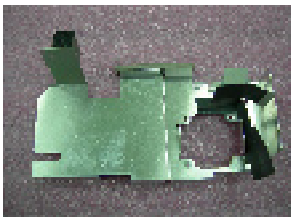


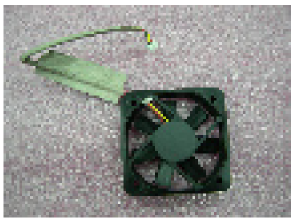






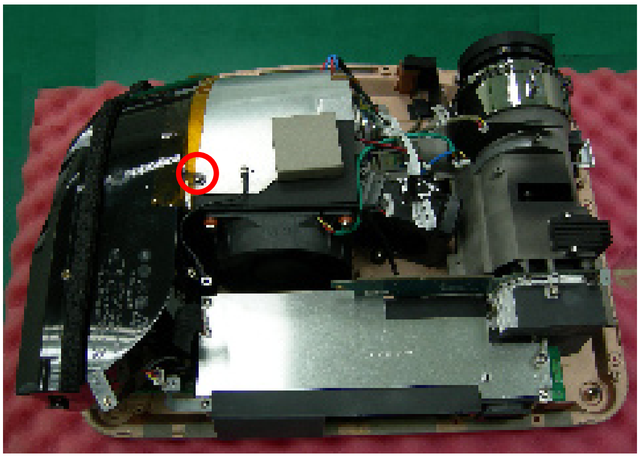


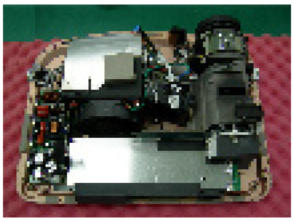


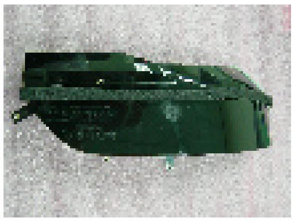


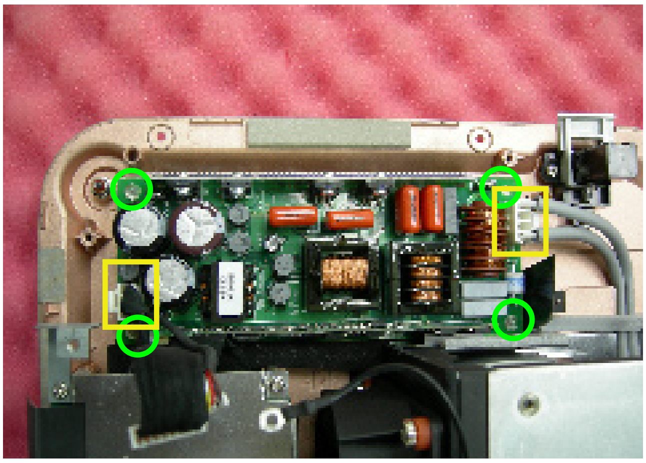
2-13 Disassemble Ballast

1. Unscrew 1 screw on the metal cover (as red circle)
2. Remove the Air-Duct first
3. Unscrew 4 screws on the ballast (as green circle)
4. Unplug 2 plugs (as yellow square)
5. Remove the ballast

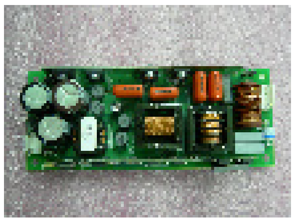








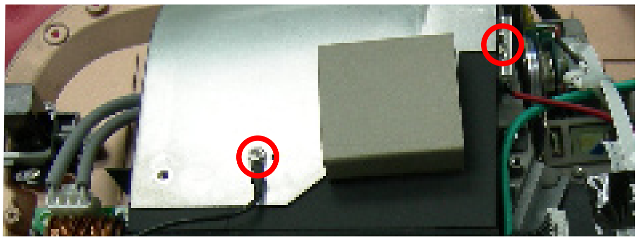


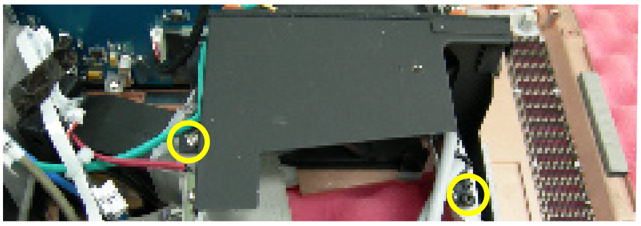




2-14 Disassemble Fan Shetter2

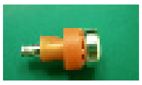
1. Unscrew 2 screws on the metal cover (as red circle)
2. Pull up to remove the metal cover
3. Unscrew 2 screws on the airtight bracket (as yellow circle)
4. Pull up to remove the airtight bracket and fan







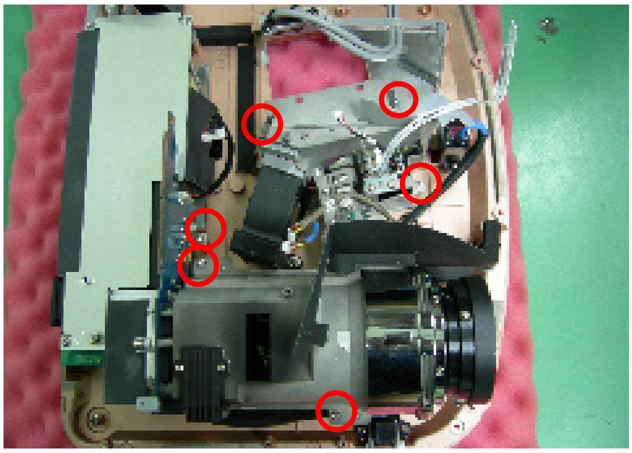




2-15 Disassemble Optical Module

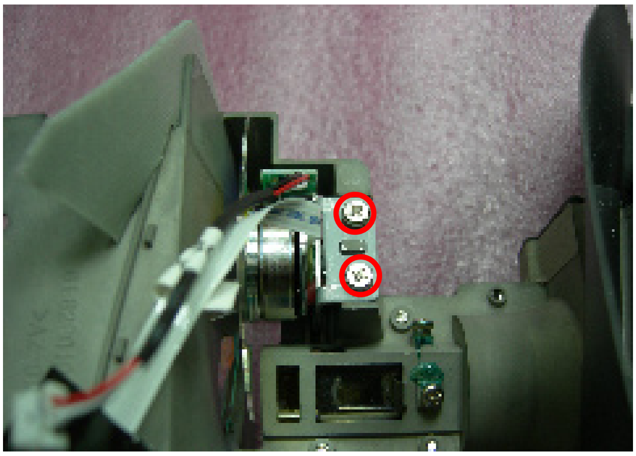
1. Unscrew 6 screws (as red circle)
2. Lift up the Optical Module

Note: Avoid to touch the Optical glass part

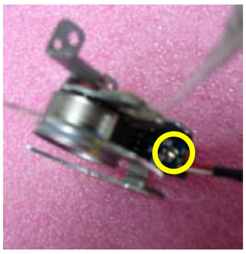


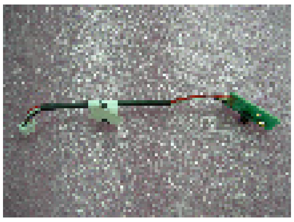


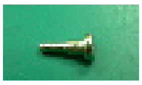
2-16 Disassemble Color Wheel



1. Unscrew 2 screws (as red circle) to disassemble Color Wheel Module.
2. Unscrew 1 screw (as yellow circle) to disassemble Photo Sensor Board from Color Wheel Module.
3. Remove the color wheel





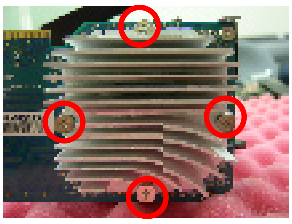


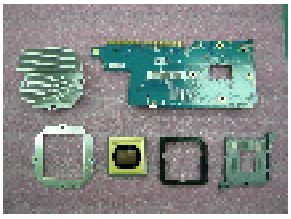
Note: Avoid to touch the glass parts in color wheel.

2-17 Disassemble DMD Chip



1. Unscrew 4 screws on the heatsink bracket.





Note: - The manner of placing a DMD mask

- Use an electrostatic ion gun to puff the engine room in the DMD mask

- If there are scrapes or dirt on the DMD chip, use an electrostatic ion gun to clean it.

- Double check and see if the pin is out of shape.

2-18 Disassemble Zoom Ring Cover

1. Unscrew 2 screws on the zoom ring cover (as red circle)

2. Remove the zoom ring cover

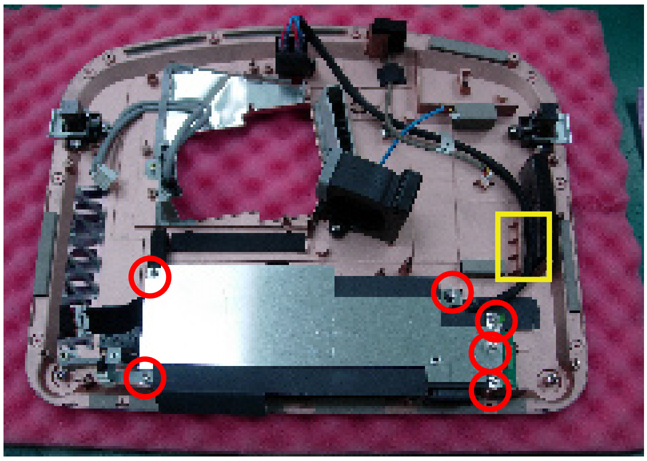




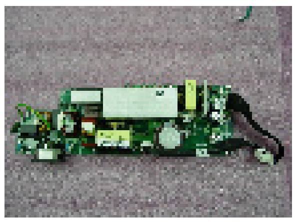


2-19 Disassemble LVPS

1. Unscrew 6 screws (as red circle)
2. Unplug 1 wire (as yellow square)
3. Lift up the LVPS



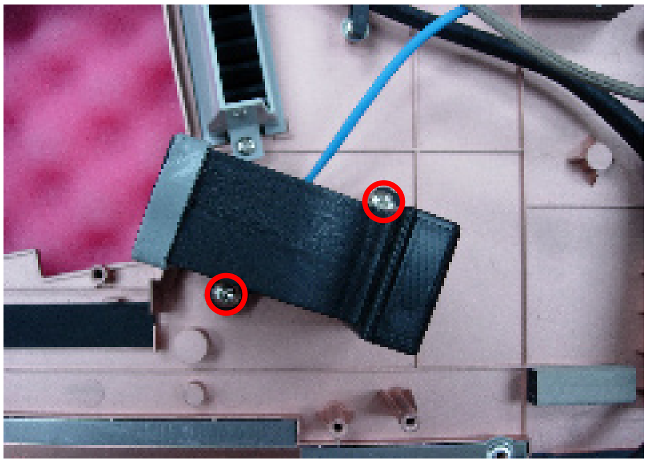


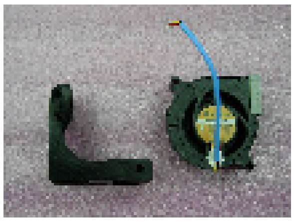




2-20 Disassemble Blower

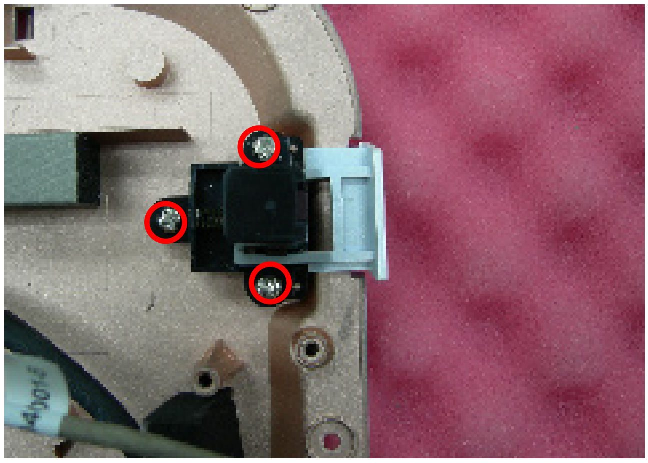
1. Unscrew 2 screws (as red circle)
2. Remove the blower





2-21 Disassemble Bottom Cover Module&Elevator

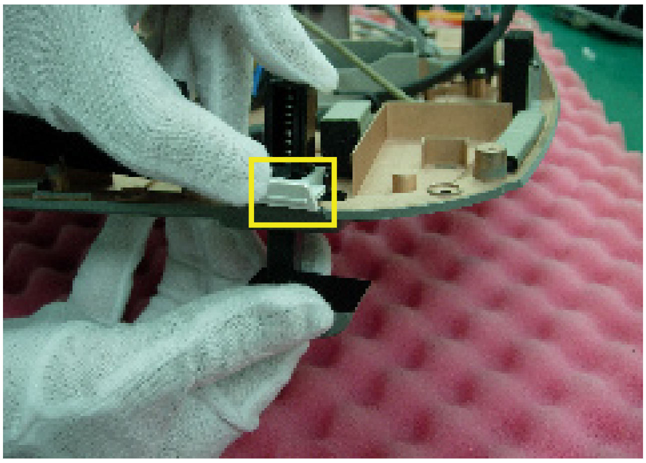
1. Unscrew 3 screws on the elevator (as red circle)

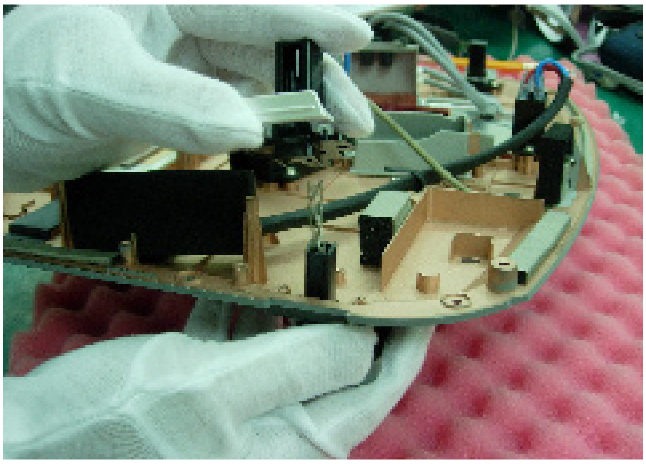


2. Hold the elevator and press the push button (as yellow square)

3. When pressing the push button, the elevator foot will get loose and be easily to be pulled down to separate the elevator.

4. Take out the long spring and separate all parts of the elevator.







2-22 Rod Adjustment

1. Environment adjustment

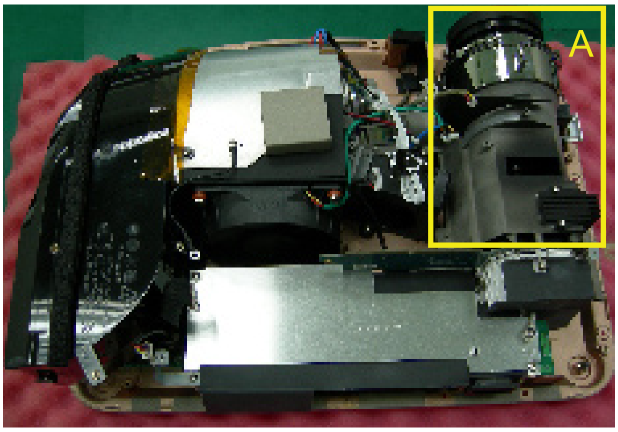
   - The distance between the engine and the screen is 2.44M

   - This process should be done at a dark environment. (under 5 Lux)

2. Procedure adjustment

   - Change the screen to “white screen.”

   - Adjust the screws by using the rod on the engine module to readjust the image. (adjust until the yellowish or bluish parts disappear.)



3. Abnormal image inspection

   - It should not have any abnormal color at the frame of the image by estimating through the eyes.

Note: - Avoid over adjusting the rod.

- After the opration, please use the glue to fix the screws.



2-23 Re-write Lamp Usage Hour

1. Get into service mode.

    - Press (Power→Left→Left→Up) to get into service mode

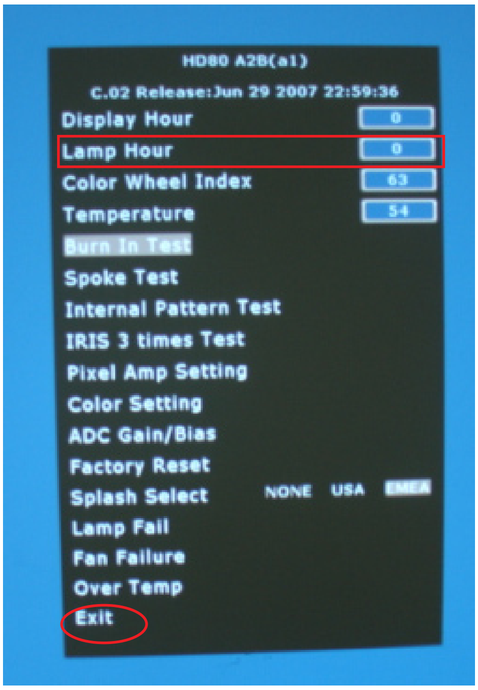
2. Use “Left” or “Right” key to re-write the lamp hour back to previous lamp usage hour.

3. Choose exit.

Note: - Left key = decrease lamp hour

Right key =increase lamp hour

- Take HD80 for example, HD80-LV/ HD803-LV series is the same as HD80.



2-24 Re-write Display Hour

1. Get into service mode.

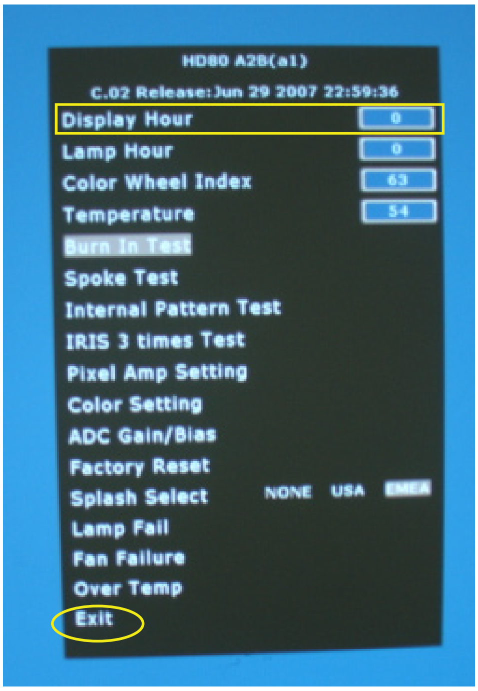
2. Use “Left” or “Right” key to re-write the display hour back to previous display hour.

3. Choose exit.

Note: - Left key = decrease lamp hour

Right key =increase lamp hour

- Take HD80 for example, HD80-LV/ HD803-LV series is the same as HD80.



Troubleshooting

3-1 LED Lighting Message

Message	Power LED (Blue)	Power LED (Red)	Temp LED (Blue / Red)	Lamp Led (Blue / Red)
Standby State (input power cord)	O	*	O	O
Warming	*	O	* (Blue)	* (Blue)
Normal Mode	*	O	* (Blue)	* (Blue)
Cooling	Flashing	O	Flashing (Blue)	Flashing (Blue)
Error (Lamp failed)	O	O	O	* (Red)
Error (Fan failed)	O	O	O	Flashing (Red)
Error (Over Temp.)	O	O	* (Red)	O

* *Light on* O *Light off*

3-2 Main Procedure

No	Symptom	Procedure
1	No Power	- Ensure the Power Cord and AC Power Outlet are securely connected - Check Lamp Cover and Interrupt Switch - Ensure all connectors are securely connected and aren't broken - Check Lamp Driver - Check LVPS - Check Scaler Board - Check Formatter Board
2	Auto Shut Down	- Check LED Status a. Lamp LED lights on red - Check Lamp - Check Lamp Driver - Check Scaler Board - Check Formatter Board - Check Color Wheel - Check Photo Sensor b. Lamp LED flashes red - Check Fan - Check Scaler Board - Check Formatter Board c. Temp LED lights on red - Check Thermal Sensor - Check Thermal Switch - Check Fan

No	Symptom	Procedure
3	No Image	- Ensure the Signal Cable and Source work (If you connect multiple sources at the same time, use the “Source” button on the control panel to switch) - Ensure all connectors are securely connected and aren’t broken - Check Scaler Board - Check Formatter Board - Check DMD Board - Check Color Wheel - Check DMD Chip
4	No Light On	- Ensure all connectors are securely connected and aren’t broken - Check Lamp Module - Check Lamp Driver - Check LVPS - Check Scaler Board - Check Formatter Board
5	Mechanical Noise	- Check Color Wheel - Check Fan Module
6	Line Bar/Line Defect	- Check if the Formatter Board and the DMD Board are assembled properly - Check Formatter Board - Check DMD Board - Check DMD Chip
7	Image Flicker	- Do “Reset (All data)” of the OSD Menu - Ensure that the signal cables and source are work as well - Check Lamp Module - Check Color Wheel - Check DMD Board - Check Scaler Board - Check Formatter Board

No	Symptom	Procedure
8	Color Abnormal	- Do “Reset (All data)” of the OSD Menu - Adjust Color Wheel Index - Check Scaler Board - Check Formatter Board - Check Color Wheel
9	Poor Uniformity/ Shadow	- Ensure the projection screen without dirt - Ensure the projection lens is clean - Ensure the Brightness is within spec - Check rod alignment - Check Engine Module
10	Dead Pixel/Dust (Out of spec.)	- Ensure the projection screen without dirt - Ensure the projection lens is clean - Clean DMD Chip and Engine Module - Check DMD Chip - Check Engine Module
11	Garbage Image	- Ensure that the signal cables and source work as well. - Check Scaler Board - Check Formatter Board - Check DMD Board
12	Remote Control/ Control Panel Failed	- Remote Control a. Check Battery b. Check Remote Controller c. IR receiver d. Check Scaler Board - Control Panel a. Check IR connector b. Check Scaler Board
13	Function Abnormal	- Do “ Reset (All data)” of the OSD Menu - Check Scaler Board - Check Formatter Board - Check DMD Board

No	Symptom	Procedure
14	IRIS Fail	- Check IRIS module connector. - Check IRIS module - Check Formatter Board.

Chapter 4

Function Test & Alignment Procedure

4-1 Test Equipment Needed

- IBM PC with XGA resolution
- Equipped “Component”, “S-Video” , “Composite” ,"DVI-I", "VGA", "SCART" and "HDMI."
- HDTV Source (720P / 50HZ, 720P / 60HZ, 1080i / 50HZ, 1080i / 60HZ, 1080P / 60HZ)
- Minolta CL-100
- Quantum Data 802B or CHROMA2327 (Color Video Signal & Pattern Generator)
- After changing parts, check the information below.

4-2 Service Mode

1. Turn on the projector and input the signal
2. Do the following actions sequentially to get into service mode menu
   - Press "Power","Left","Left" and "Up" continuous.

4-3 OSD Reset

1. After final QC step, we have to erase all saved change again and restore the OSD default setting. The following actions will allow you to erase all end-users' settings and restore the default setting:

   (1) Please get into OSD menu.

   (2) Execute "Reset" function.

4-4 Test Condition

- Circumstance brightness: Dark room less than 5.0 lux.
- Inspection distance: 1.8m~2.5m functional inspection.
- Screen size: 60 inches diagonal
- After repairing, each unit should be run-in (refer to the table below)

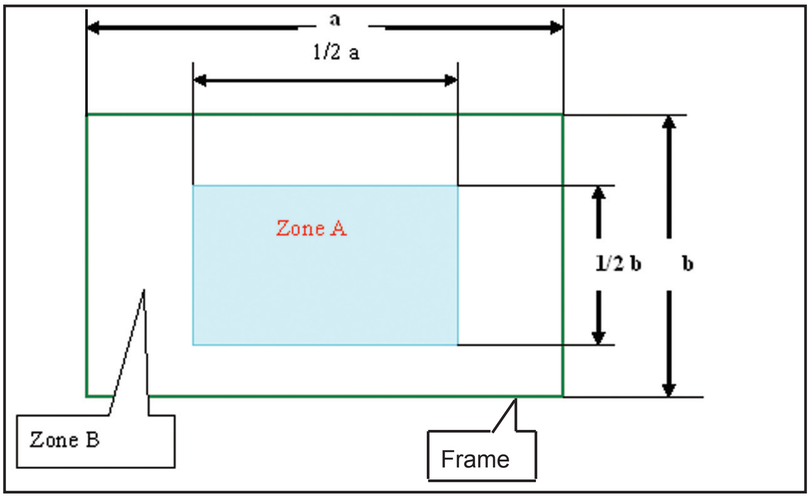
Symptom	Run-in Time
Normal repair	2 hours
NFF	4 hours
Auto shutdown	6 hours

- Get into Burn-In Mode

* *Cycle setting is based on the defect symptoms. ie: If it is NFF, the run-in time is 4 hours. You have to set the lamp on for 50 min. and lamp off for 10 min for 4 cycles.*

Press power > left > left > up	
Choose Burn-In Test > enter	
Lamp On (Min)	Press right key to adjust the time (50)
Lamp Off (Min)	Press right key to adjust the time (10)
Set burn in cycle	Press right key to adjust the cycle
After setting up the time, choose Burn-In mode and hit enter	

Screen Defects (While replacing DMD Chip, DMD BD and MB)



< Figure: Zone A, Zone B & Frame(as green line) Definition,

Active area=Zone A+ Zone B >

4-5 Test Inspection Procedure

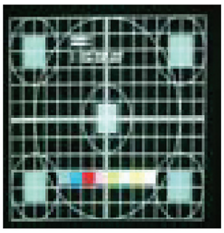
Charge parts / Update	Scaler BD	FW	Color Wheel	Lamp Module
Version Update	v	v		
Color Wheel Index	v		v	
PC Calibration	v			
YPbPr Calibration	v			
Reset lamp hour				v
Factory Reset	v	v		
EDID	v			
Re-write Lamp Hour Usage	v			

4-6 PC MODE

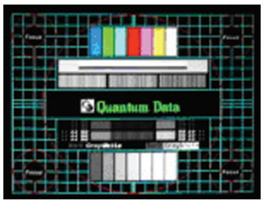
1. Frequency and tracking boundary

Procedure

- Test equipment: video generator.
- Test signal: analog 1920 x 1080@60Hz
- Test Pattern: general-1 (1920 x 1080@60Hz)or master (1920 x 1080@60Hz).
- Check and see if the image sharpness is well-performed.
- If not re-adjust by the following steps:
  (1) Select "Frequency" function to adjust the total pixel number of pixel clock in one line period.
  (2) Select "Tracking" function and use right or left arrow key to adjust the value to minimize video flicker.
- Adjust Resync or Frequency/Tracking/



General-1



Master

H. Position/V. Position to the inner screen.

Inspection item - Eliminate visual wavy noise by Rsync, Frequency or Tracking selection.

- Check if there is noise on the screen.
- Horizontal and vertical position of the video should be adjustable to the screen frame.

Criteria - If there is noise on the screen, the product is considered as failure product.

- If there is noise on the screen, use auto or manual “frequency” function or “tracking” function to adjust the screen.
- Make sure the PC mode functions well, including that frequency and auto detected functions are workable.

2. Light Leak

Procedure - Test equipment: video generator.

- Test signal: analog 1920 x 1080@60Hz
- Test Pattern: gray 10 pattern
- Check if the light leaks.
  * Light leak on reflective edge, eye-catcher, bondwires and exposed metal.



Gray 10

Inspection item - Light leak check.

- Bright blemish (dirty).

Criteria - Bright blemish is unacceptable in zone A and no more than 4 in zone B.

- Ref. Defect specification table.

3. Blemish (Dark)

Procedure - Test equipment: video generator.

- Test signal: analog 1920 x 1080@60Hz
- Test Pattern: blue 60



Blue 60

Inspection item - Dark blemish check.

Criteria - The dark blemish is unacceptable in zone A and no more than 4 in zone B under blue 60 pattern.

4. Dead Pixel (Bright pixel)

Procedure
- Test equipment: video generator.
- Test signal: analog 1920 x 1080@60Hz.
- Test Pattern: Gray 10

Inspection item
- Bright pixel check.
- Adjacent pixel.

Criteria
- Bright pixel is unacceptable.
- Adjacent pixel is unacceptable.
- Ref. the Defect specification table.



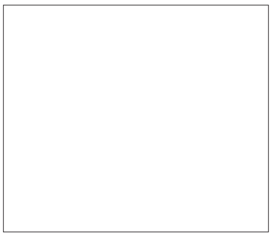
Gray 10

5. Dead Pixel (Dark pixel)

Procedure
- Test equipment: video generator.
- Test signal: analog 1920 x 1080@60Hz.
- Test Pattern: full white

Inspection item
- Dead pixels check.
- White pattern (IRE=100)
- Adjacent pixel.

Criteria
- Dark pixel is unacceptable in zone A and no more than 2 in zone B.
- Adjacent pixel is unacceptable.
- Ref. the Defect specification table.



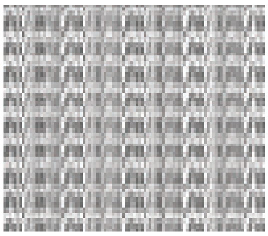
Full white

6. Focus test

Procedure
- Test equipment: video generator.
- Test signal: analog 1920 x 1080@60Hz
- Test Pattern: full screen or MEME Sony

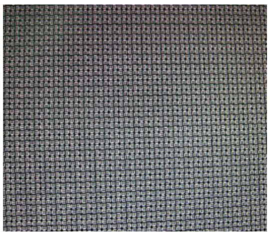
Inspection item
- Focus check

Criteria
- From screen 1.5 M via visual to check the focus, look at the entire screen, focus shall be clear, crisp, and sharp over the entire surface of the display pattern. (Blur word on one of the corner after adjustment is acceptable. However, the word should at least be recognizable.)



Full screen

7. Color performance

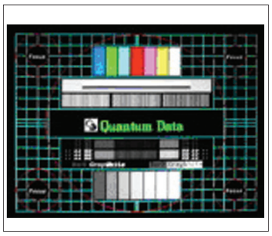


MEME Sony

Procedure

- Test equipment: video generator.
- Test signal: DVI (HDMI) 720p,1080i
- Test Pattern: Master, In focus II or SMPTE RP-133

* Please refer to 4-2 to get into service mode. Use 720P & 1080i signal, master pattern to do HDTV test. Color cannot discolor to purple and blue.



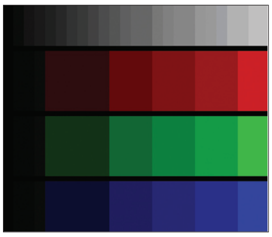
Master

Inspection item

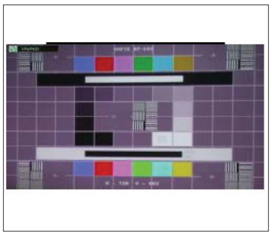
- Check if each color level is well-functioned.
- Color saturation

Criteria

- Screen appears normal. It should not have any abnormal condition, such as lines appear on the screen and so on.
- Color appears normal.
- It is acceptable to have few lines flashing at the center and on the edge of 1080i image. However, rest of the image should appear stable.
- RGBW should all appear normal on the screen and sort from R -G-B-W.
- Color levels should be sufficient and normal. (the unidentified color levels on both left and right sides should not over 8 color levels.)
- Gray level should not have abnormal color or heavy lines.
- Make sure the PC mode functions well, including that frequency and auto detected functions are workable.



InFocus II / 64 gray RGBW



SMPTE RP-133

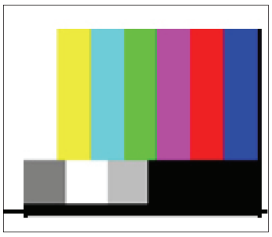
4-7 Calibration

1. YPbPr calibration

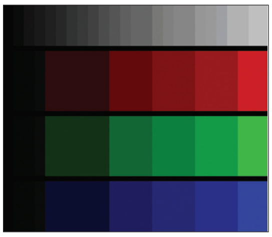
Procedure

- Test equipment: video generator.

- Once main board is changed, YPbPr calibration should be done as well.
  (1) Test signal: 720P
  (2) Test Pattern: SMPTE BAR
- Note
  (1) Calibration pattern should be in fill screen mode.
  (2) Please refer to 4-2 to get into Service Mode and OSD Reset.
  (3) Choose and access YPbPr Calibration for correction in service mode. Choose “menu” to leave the service mode after all.
  * Note: ADC adjustment can only be used once. If there is any circumstances which needs to be re-adjust, the adjustment is only effective when you adjust at the odd number of times. Otherwise, the black will not be dark enough.



SMPTE BAR



In focus II / 64 Gray RGBW

Check pattern
- Test signal: 720P
- Test pattern: In focus II or 64 gray RGBW
  * After finishing Video calibration adjustment, check 64 gray RGBW pattern.

Inspection item
- Color saturation

Criteria
- There should not have any lack of RGBW. The color should appear normal and sort in right order.
- Color levels should be sufficient and normal. (the unidentified color levels on both left and right sides should not over 8 color levels.)
- Gray level should not have abnormal color or heavy lines.

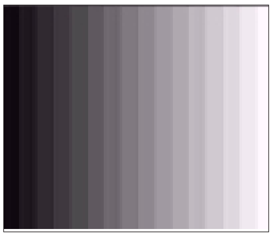
2. PC calibration

Procedure
- Test equipment: video generator
- Once main board is changed, PC calibration should be done as well.
  (1) Test signal analog: 1920 x1080@60Hz

(2) Test Pattern:16 Gray (1920 x 1080@60Hz)

- Note
  (1) Calibration pattern should be in fill screen mode.
  (2) Please refer to *4-2 to get into Service Mode and OSD Reset.*
  (3) Choose and access PC Calibration for correction in service mode. Choose “menu” to leave the service mode after all.

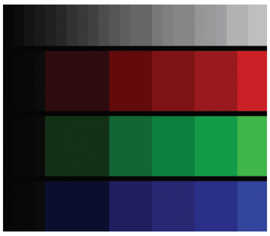
* Note: ADC adjustment can only be used once. If there is any circumstances which needs to be re-adjust, the adjustment is only effective when you adjust at the odd number of times. Otherwise, the black will not be dark enough.



16 gray

Check pattern
- Test signal: analog 1920 x 1080@60Hz
- Test pattern: In focus II or 64 gray RGBW

* After finishing ADC adjustment, check 64 gray RGBW pattern, adjust color wheel index in color setting of service mode.



In focus 2 / 64 gray RGBW

Inspection item
- Color saturation

Criteria
- There should not have any lack of RGBW. The color should appear normal and sort in right order.
- Color levels should be sufficient and normal. (the unidentified color levels on both left and right sides should not over 8 color levels.)
- Gray level should not have abnormal color or heavy lines.

Defect specification table

Order	Symptom	Pattern	Criteria
1	Bright pixel (dots)	Gray 10 pattern	A+B=0
2	Dark pixel(dots)	White pattern	A=0 B≤2

Order	Symptom	Pattern	Criteria
3	Unstable pixel (dots)	Any pattern	A+B=0
4	Adjacent pixel (dots)	Any pattern	A+B=0
5	Dark blemish (Dirty)	Blue 60 pattern	A=0 B≤4 (diameter <1 inch)
6	Bright blemish (Dirty)	Gary 10 pattern	A=0 B≤4 (diameter <1 inch)
7	Bright dot on frame	Gray 10 pattern	≤1

4-8 IRIS Test

Procedure

- Get into the service mode
- Press "Power","Left","Left" and "Up" continuous.
- Select " IRIS 3 times test" founction, then the image will flash three times.

4-9 Optical Performance Measure

Inspection Condition
- Environment luminance: 5 Lux
- Product must be warmed up for 3 minutes
- Distances from the screen: 2.44 M
- Screen Size: 60 inches diagonal
- Reset to default before measurement

1. Test equipment

Procedure
- Test equipment: video generator.
- Test signal: analog 1920 x 1080@60Hz.

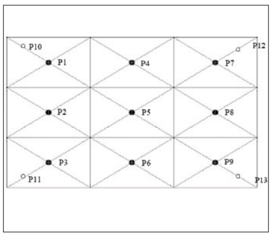
2. Brightness

Procedure
- Full white pattern
- Use CL100 to measure brightness values of P1~P9.
- Follow the brightness formula to calculate brightness values.

☼ Brightness Formula

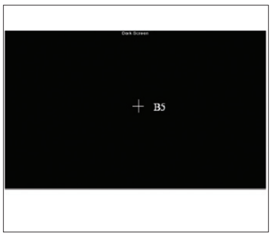
Avg. (P1+P2+P3+...+P9) x1.1

Criteria
- 440 ANSI Lumens



Full white pattern

3. Full On/Full Off Contrast



Full black pattern

Procedure

- Full white pattern & full black pattern
- Use CL100 to measure brightness values of full white pattern P5 & full black pattern B5 (see image: full white)
- Follow Contrast formula to calculate contrast values.

☼ Contrast Formula

P5/B5

note: P5=center of white image

B5 = the center of black image.

Criteria

- 2000:1

4. Uniformity

Procedure

- Full white pattern
- Use CL100 to measure brightness values of P1~P9 (see image: full white).
- Follow the Uniformity formula to calculate average values.

☼ Uniformity Formula

$$\text{ANSI Uniformity} = \frac{\text{Avg. (P1, P3, P7, P9)}}{\text{P5}} \times 100\%$$

Criteria

- 65 %

4-10 Video Performance

1. CVBS



Motion video

Procedure	- Test equipment: DVD player
	- Test signal: CVBS
Inspection item	- Video performance test
Inspection Distance	- 1.8M ~2.5M
Criteria	- Check any abnoraml color, line distortion or any noise on the screen

2. S-Video

Procedure	- Test equipment: DVD player
	- Test signal: S-Video
Inspection item	- Video performance test
Inspection Distance	- 1.8M ~2.5M
Criteria	- Check any abnoraml color, line distortion or any noise on the screen

3. HDTV/ Component

Procedure	- Test equipment: DVD player
	- Test signal: YCbCr/YPbPr
Inspection item	- HDTV performance test
Inspection Distance	- 1.8M ~2.5M
Criteria	- Check any abnoraml color, line distortion or any noise on the screen

4. HDMI Test

Procedure	- Test equipment: DVD Player with HDMI output - Test signal: 720p,1080i
Inspection item	- HDMI performance test
Inspection Distance	- 1.8M ~2.5M
Criteria	- Ensure if the image is well performed and the color can not discolor.

4-11 Others

1. Functional Inspection

Keypad button	- All keypad buttons must operate smoothly.
General	- All OSD functions must be checked for functionality. When OSD menu is displayed, there shall be no visible peaking, ringing, streaking, or smearing artifacts on the screen.
Factory Default	- The factory settings (with appropriate center, size, geometry distortion, etc.) shall be displayed upon “Recall” is selected from OSD
Display Size	- All preset modes shall expand to full screen size using OSD Horizontal and Vertical Size controls
Display Data Channel (DDC)	- The purpose of the DDC test is to verify the DDC1/DDC2B operation of the projector and to verify Plug & Play function.
Acoustic	- High pitch sound from cooling fan and color wheel is unacceptable.

2. Check points for exterior and print pattern

Check item	Check point
Text & pattern	Missing letters & pattern or blurry prints are unacceptable.
Exterior	Dirt, scrape, water ripples and uneven color are unacceptable.
Button	Stuck buttons are unacceptable.
Focus ring	Focus ring is functioning smoothly.
Logo	Missing logo, missing prints and blurry prints are unacceptable
Screw	All screw sure be fixed and in right type.
Elevator	Elevator is well-functioned. Stuck key is unacceptable.
Pedestal	Well-functioned
Lamp cover	It should be locked in the correct place.
Plastic parts	All plastic parts can not be broken and damaged.
Safety or warning label	All safety and warning label should be visible, including all contents.
Connector	All interface connector should be complete and workable.

Chapter 5

Firmware Upgrade

5-1 Equipment Needed

Software : (DDP 3021)

- Pixelworks
- Appcode.HEX
- Flasher.HEX
- Flashall.inf
- Flash Upgrader.exe

Note: The FW upgrade procedure for HD80/HD80-LV/HD803-LV Series is the same. Here, we take HD80 as an example.

Hardware :

- Projector
- Power Cord
- RS232 9 pin cable (F to F) pin to pin (P\N 42.86603G001-A)
- PC

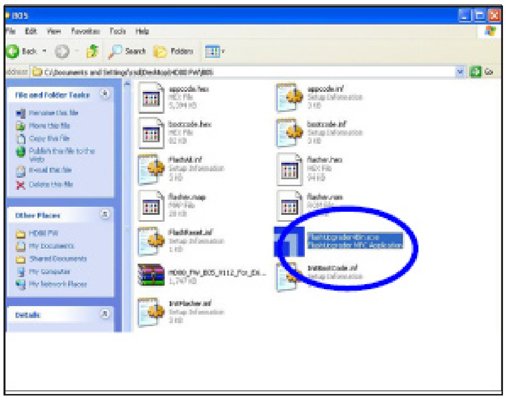




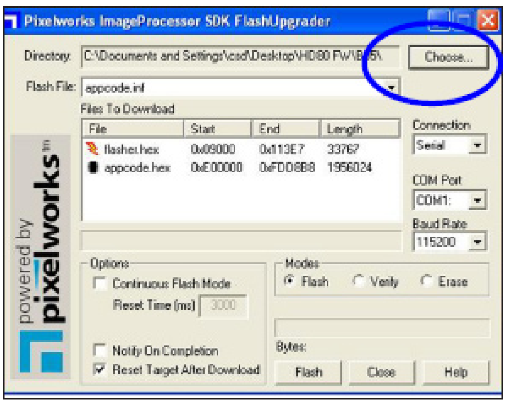

5-2 Setup Procedure

1. Connect all ports
   - Make sure power cord unplugged
   - Connect PC Com Port and projector RS232 Port by RS232 cable.

5-3 Firmware Upgrade Procedure



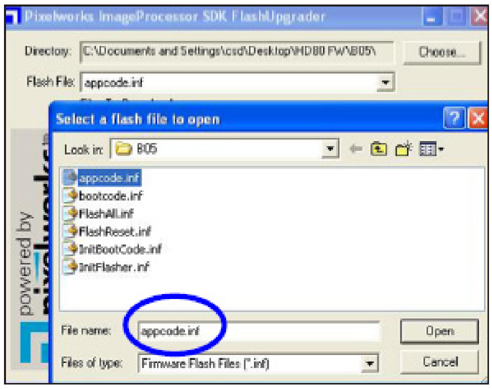
1. Get into the "In System Program"
   - Execute "FlashUpgrader.exe".



2. Firmware Upgrade
   - The window of FlashUpgrader shows up and click "Choose" to get the file directory.

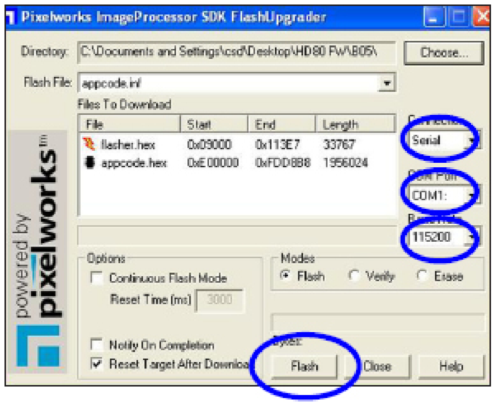
3. Process

- Select "appcode.inf" file and open it.



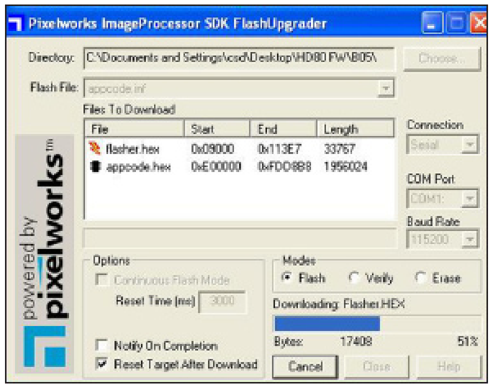
4. Process

- Select the serial port which is connected to HD80. Don't use other baud rate than 115200, or the program may not work.
- Click "Flash".



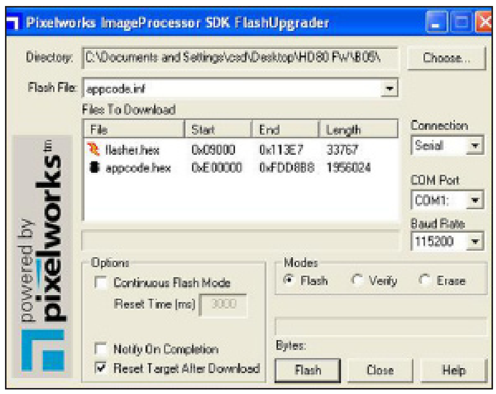
5. Process

- Connect Power Cord to HD80, then do the upgrade process. Program will be automatically run after 5 seconds.



6. Finish

- Close FlashUpgrader program and unplug Power Cord to finish firmware upgrade.
- Then get into the service mode to check the firmware and see if it is correct.



Chapter 6

EDID Upgrade

6-1 EDID Introduction

Extended Display Identification Data is a VESA standard data format that contains basic information about a display device and its capabilities, including vendor information, maximum image size, color characteristics, factory pre-set timings, frequency range limits, and character strings for the monitor name and serial number.

The information is stored in the display and is used to communicate with the system through a Display Data Channel (DDC), which sites between the display device and the PC graphics adapter. The system uses this information for configuration purposes, so the monitor and system can work together.

Note: If a display device has digital input ports, like DVI or HDMI, but without EDID in its main board, the display device will show no image while the input source is digital signal.

6-2 Equipment Needed

Software

- EDID.exe
- **-EDID-Axx.ini(*Note: ** represents model name*)

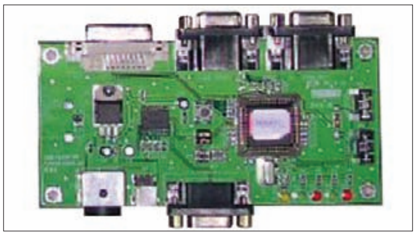
Hardware

- Projector
- HDMI(M) to DVI(F) Adapter P/N:42.82B13G001
- VGA to DVI cable P/N:42.83403.001
- RS-232 9 pin cable (Male to Female) P/N:42.83C07G001
- EDID Fixture (JP3 must be closed) P/N:80.58704.001
- PC
- DVI to DVI cable P/N:42.59902.012
- Power adapter for fixture and power cord

Note: The EDID upgrade procedure for HD80/HD80-LV/HD803-LV Series are the same. Here, we take HD80 as an example.

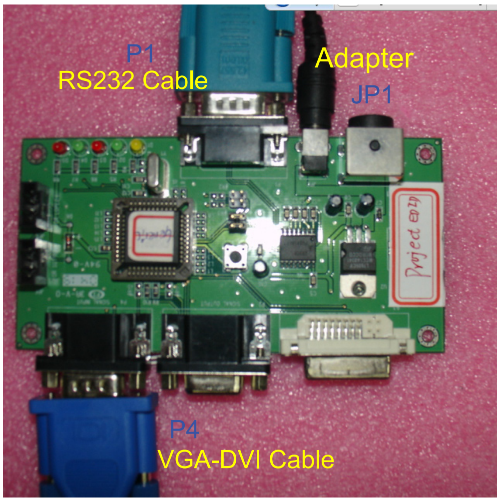








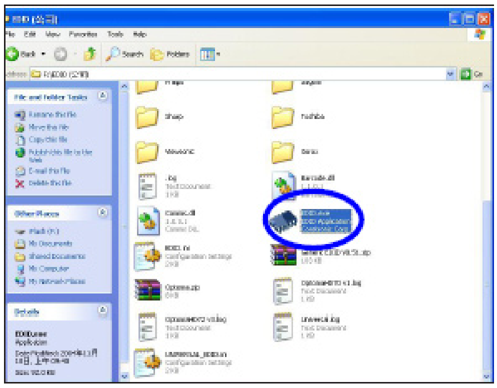

6-3 DDC Key-In Procedure (VGA Interface)



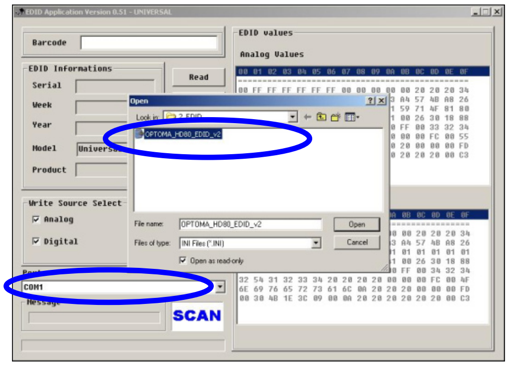
1. Setup Procedure

- Connect all ports
  - -- Power adapter to fixture JP1
  - -- Fixture P1 to PC COM2 Port
  - -- Fixture P4 to Projector DVI-I port
  - -- Power on fixture

Note: Confirm JP3 is in “Close” status.



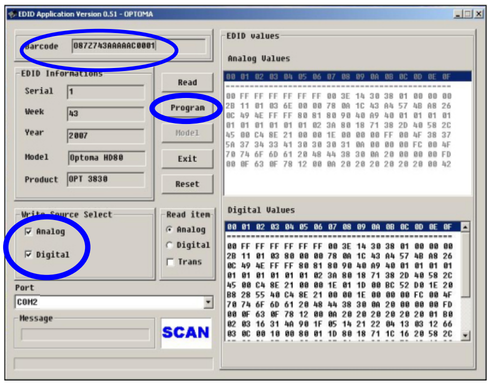
2. Double click "EDID" to execute EDID program.



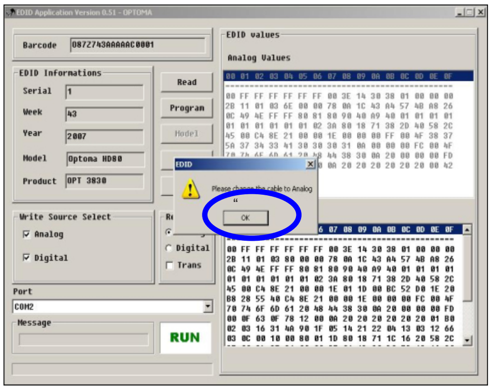
3. Choose model

- In the port selection bar, please choose the port you're using. Example: if you use "COM2," choose COM2 in the port selection.
- Click "Model."
- Choose the EDID file that responses to the model you choose.

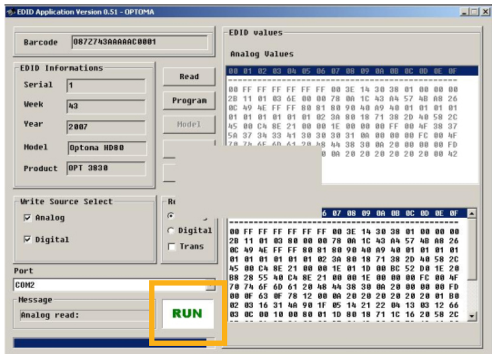
4. Programming
   - Key in the serial number into the barcode blank space.
   - In"Write Source Select"item,select “Analog” and “Digital”.
   - Click "Program" button.



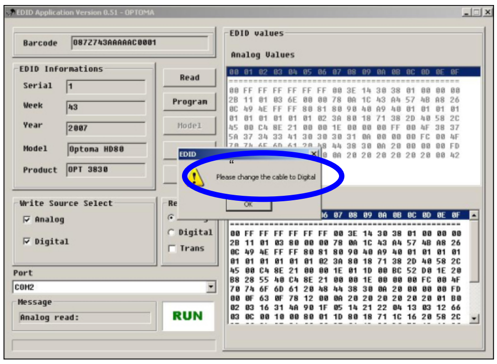
5. When the message “Please change the cable to Analog” is shown on the screen, click “OK” button.



6. “Run”message will appear on the screen.



7. When the message “Please change the cable to Digital” is shown on the screen, follow procedure 6-4.



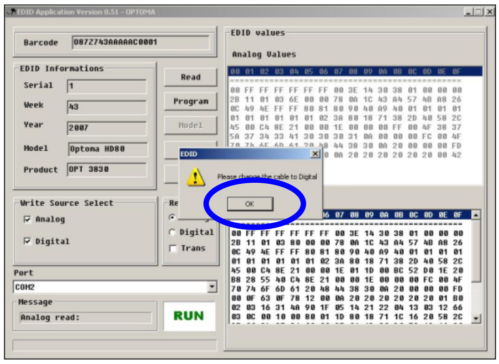
6-4 DDC Key-In Procedure
(DVI Interface)



1. Setup Procedure

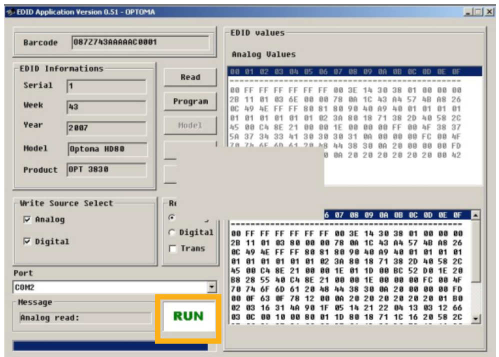
   - Unplug VGA to DVI cable from fixture.

   - Connect P3 of the fixture with DVI port of HD80 by DVI to DVI cable.

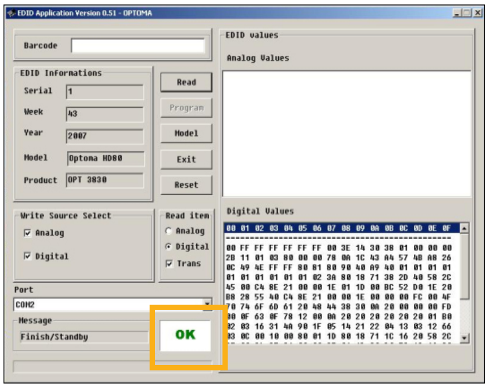


2. Click “OK” button.

3. “Run”message will appear on the screen.



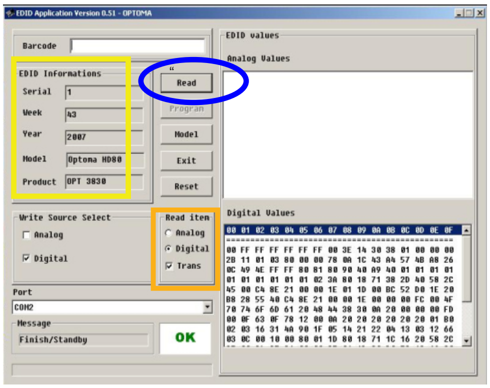
4. When the EDID program for VGA to DVI is completed, a message "OK" will appear on the screen.



5. Check DVI-D EDID Information.

   - Choose “Digital” and “Trans”in Read item.

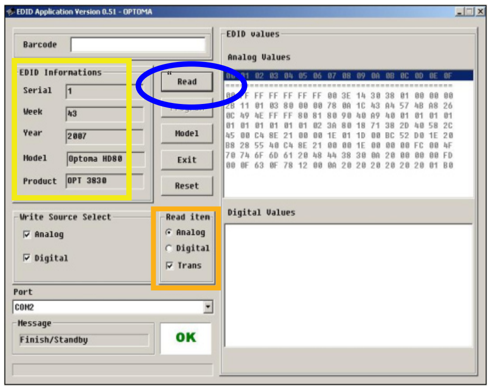
   - Press “Read” button to check EDID Information.



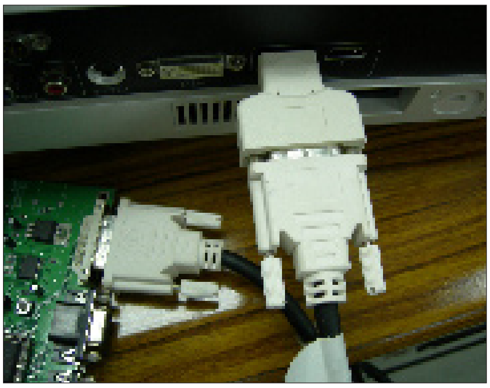
6. Check DVI-A EDID Information.

   - Choose “Anlog” and “Trans”in Read item. Unplug the DVI-DVI cable, then plug VGA-DVI cable.

   - Press “Read” button to check EDID Information.



6-5 DDC Key-In Procedure
(HDMI 1 Interface)

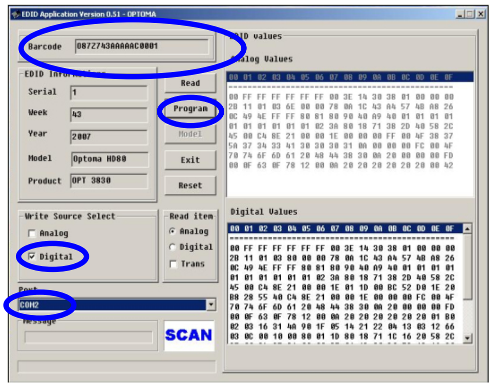


1. Setup Procedure

   - Unplug DVI-DVI cable from fixture

   - Plug DVI cable into P3 of fixture, connect DVI-HDMI adapter with DVI cable and then plug DVI-HDMI adapter into HD80 unit.

Note: Confirm JP3 is "Close" status.



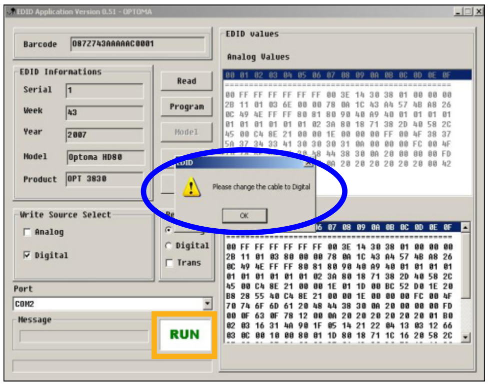
2. Programming

   - Key in the serial number into the barcode blank space.

   - In"Write Source Select"item, select "Digital".

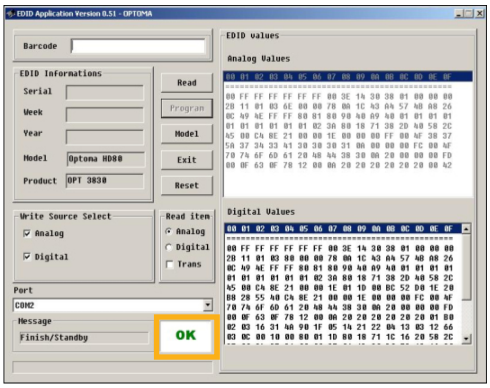
   - Choose the port you're using.

   - Click "Program" button.



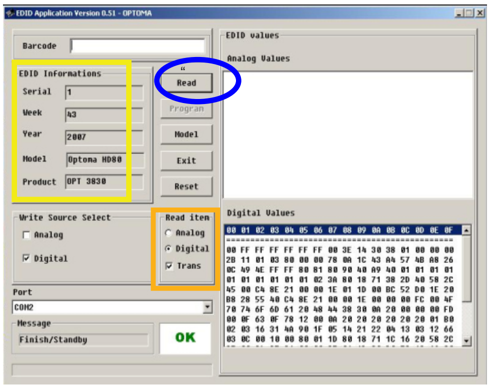
3. When the message "Please change the cable to Digital" is shown on the screen, then click"OK" button.

Note: "Run"message will appear on the screen.

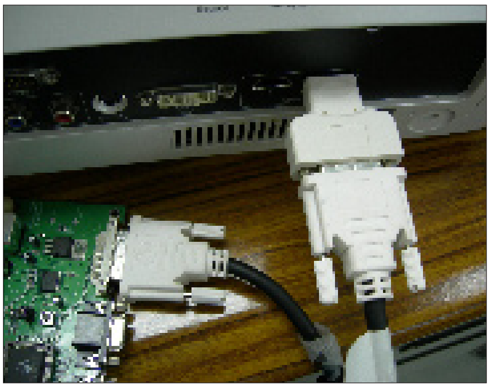


4. When the EDID program is finished, a message "OK" will appear on the screen.

5. Choose “Digital” and “Trans” in Read item. Click “Read” button to check EDID information.



6-6 DDC Key-In Procedure (HDMI 2 Interface)



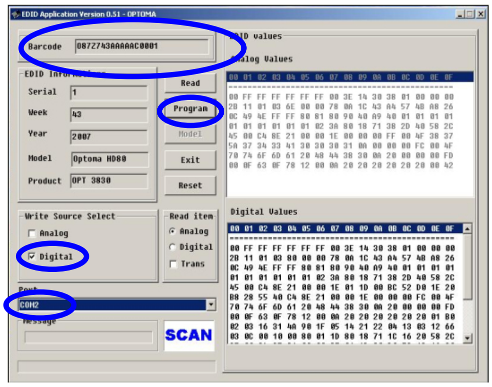
1. Setup Procedure

 - Unplug DVI-HDMI adaptor, then plug into HDMI2 port.

Note: Confirm JP3 is “Close” status.

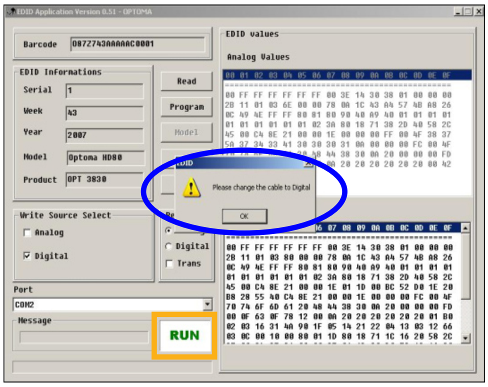
2. Programming

 - Key in the serial number into the barcode blank space.
 - In "Write Source Select" item, select “Digital”.
 - Choose the port you're using.
 - Click "Program" button.

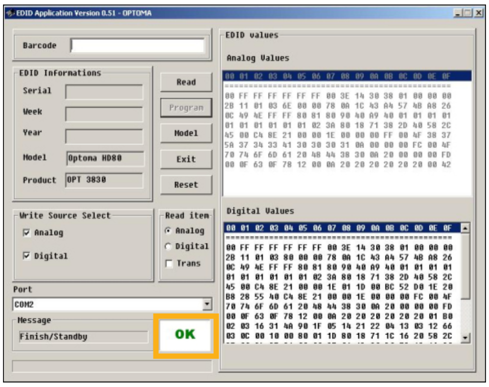


3. When the message “Please change the cable to Digital” is shown on the screen, click “OK” button.

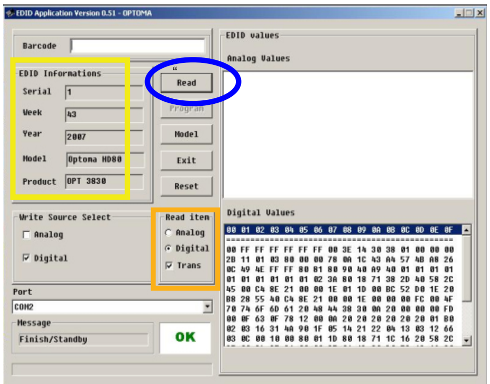
Note: “Run” message will appear on the screen.



4. When the EDID program is finished, a message "OK" will appear on the screen.

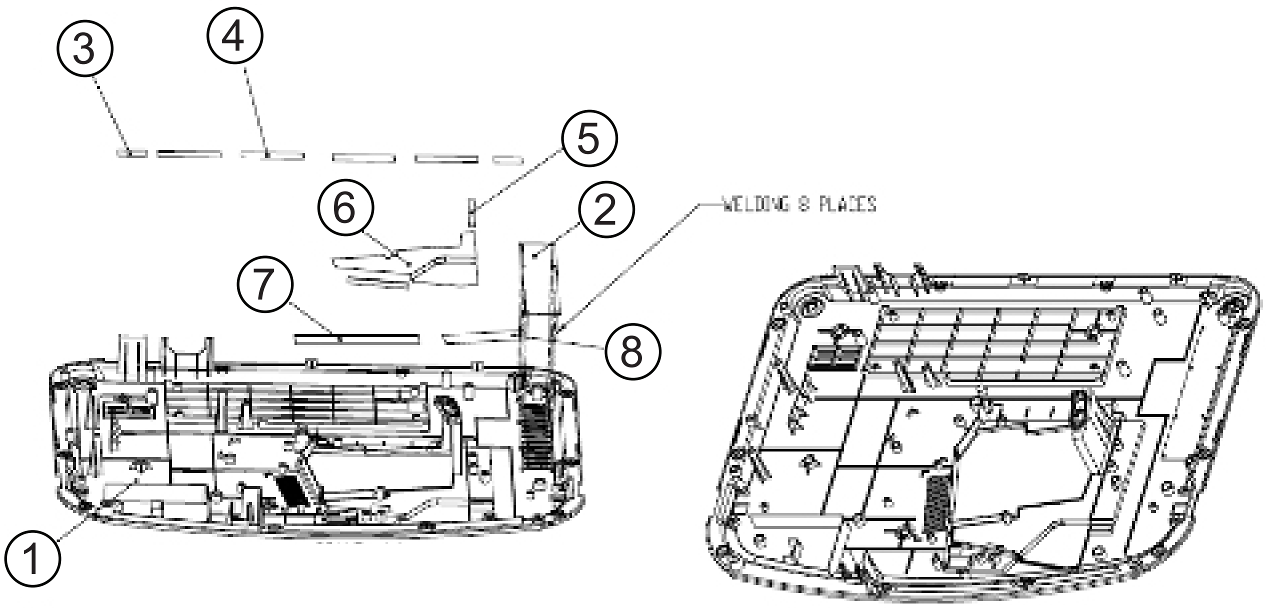


5. Choose “Digital” and “Trans” in Read item. Click “Read” button to check EDID information.



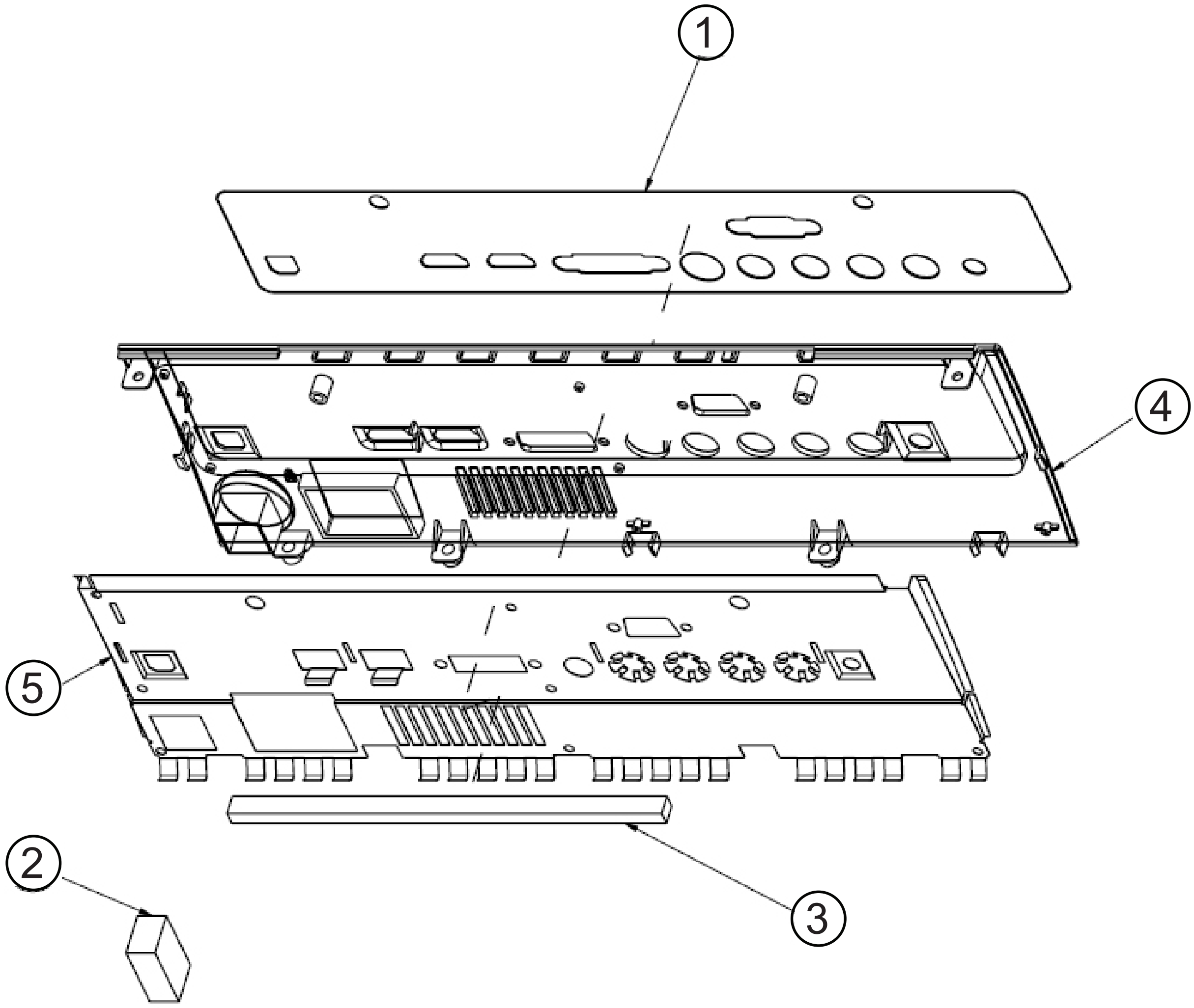
Appendix A

Buy Assy Base Housing



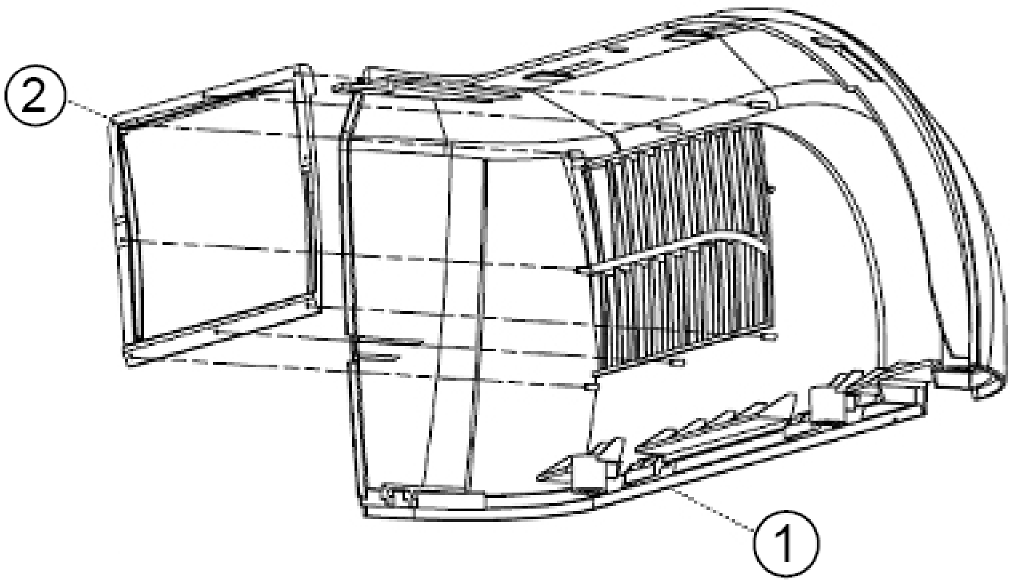
item	P/N	Rev	Description	Parts Supply
1	75.85H04G001	A	BUY ASSY BASE HOUSING HD81	V
2	61.83C18G001	A	MESH FOR LAMP DRIVER EP910	
3	41.83C13G001	A	EMI GASKET W10*L20	
4	41.83C14G001	A	EMI TAPE W10*L45	
5	52.83C09G001	A	AIR-TIGHT SPONGE-2 BOTTOM EP910	
6	61.83C15G001	A	BOTTOM HEAT ISOLATION AL FOIL EP910	
7	41.83C03G001	A	EMI TAPE W15*L90	
8	41.83C04G001	A	EMI TAPE W15*L60	

Buy Assy Rear Cover



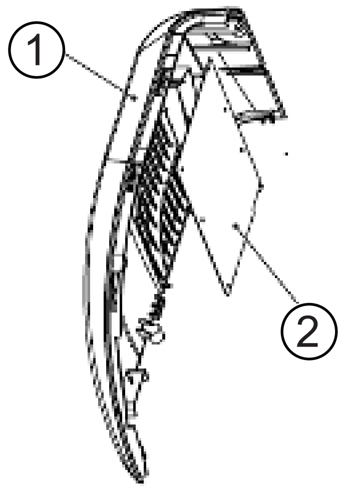
item	P/N	Rev	Description	Parts Supply
1	35.87Z01G001	A	IO LABLE PC 8B35 HD80	
2	41.83C07G001	A	EMI GASKET W10*H15*L25	
3	41.83J13G001	A	EMI GASKET W5*H7*L150mm PD527	
4	75.87Z01G002	B	BUY ASSY REAR COVER MODULE HD80	V
5	61.87Z01G001	A	REAR COVER SHIELDING TINPLATE T=0.2 HD80	

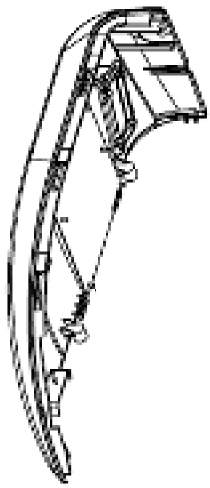
Buy Assy Right Cover



item	P/N	Rev	Description	Parts Supply
1	75.85H08G001	A	BUY ASSY RIGHT COVER HD81	V
2	52.83C20G001	A	RUBBER AIR-TIGHT FOR RIGHT COVER EP910	

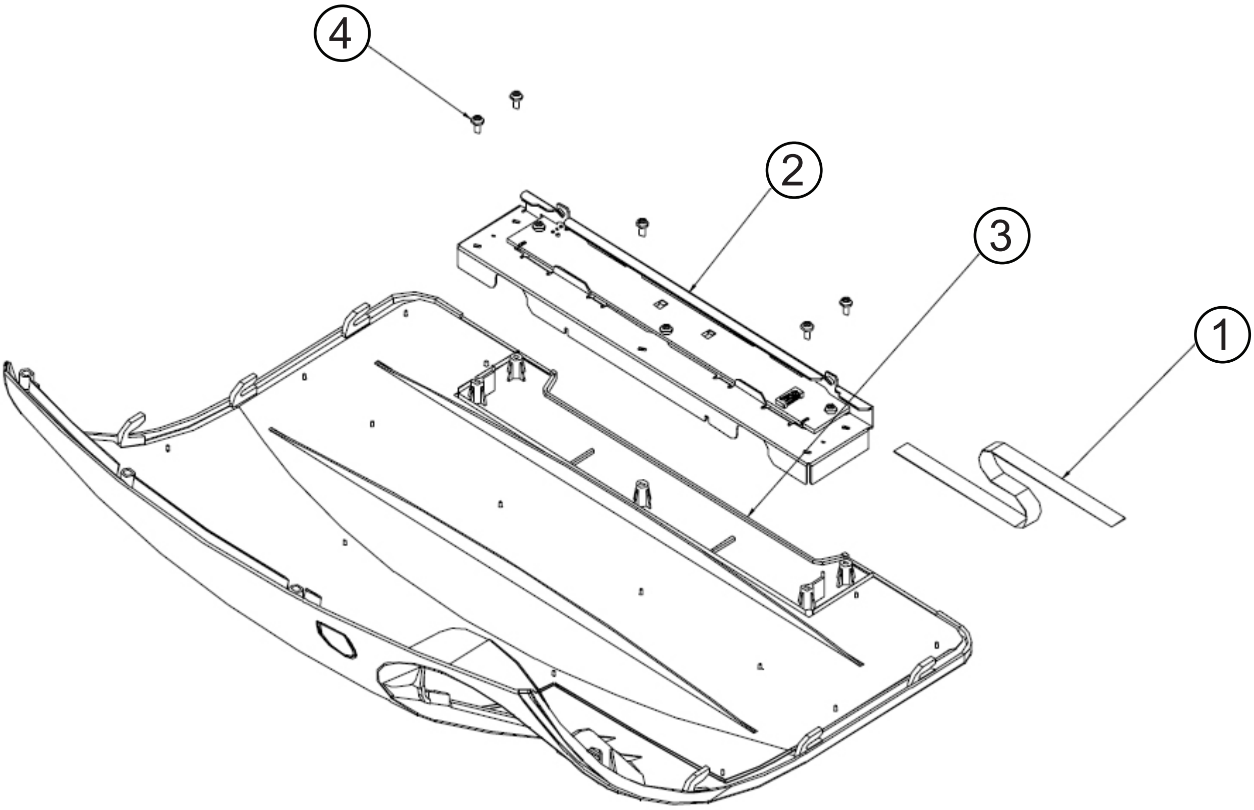
Buy Assy Left Cover





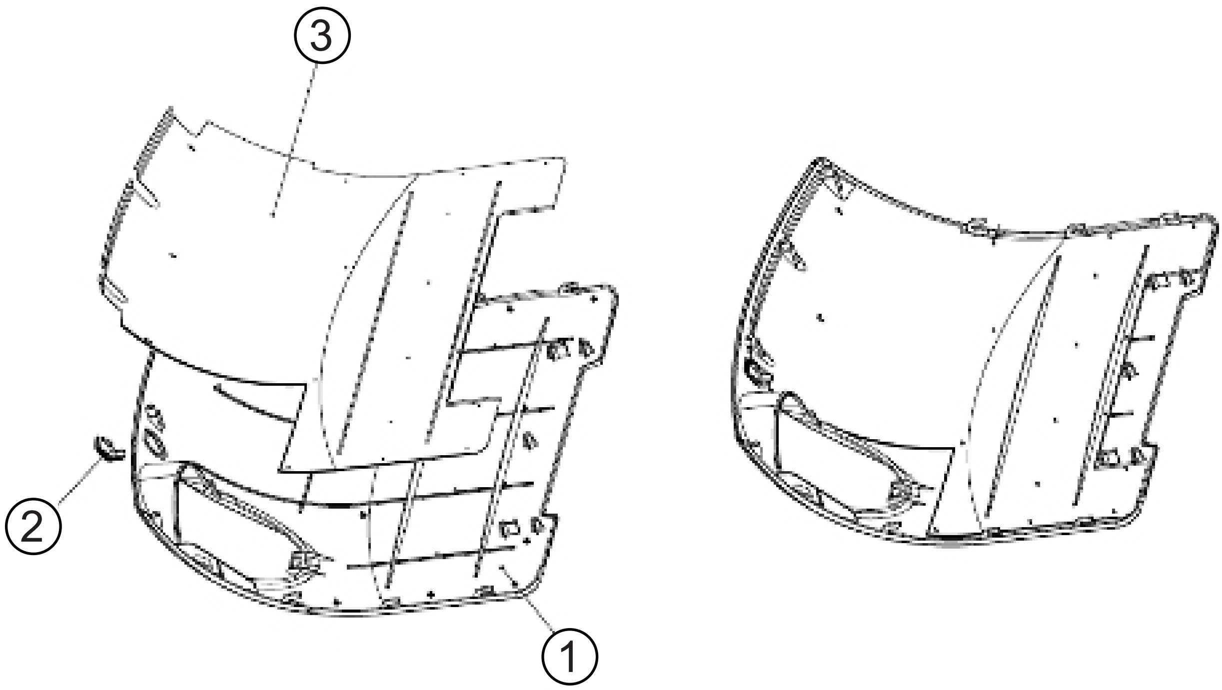
item	P/N	Rev	Description	Parts Supply
1	75.85H07G001	A	BUY ASSY LEFT COVER HD81	V
2	61.83C11G001	A	LEFT COVER MESH	

Assy Top Cover Module



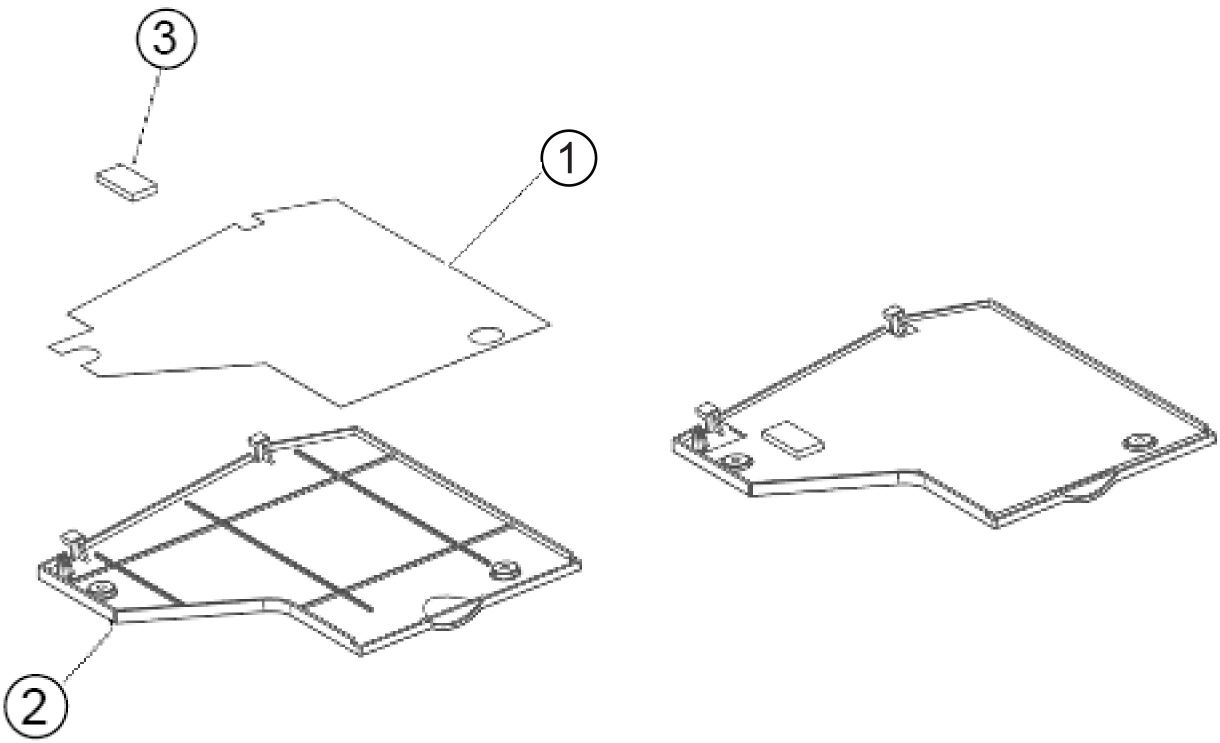
item	P/N	Rev	Description	Parts Supply
1	42.00304G001	A	FFC KEYPAD TO FORMATTER BD 16P P=0.5 122mm HD80	V
2	80.87Z03G001	A	PCBA KEYPAD BOARD FOR HD80	V
3	70.87Z23GR01	A	ASSY TOP COVER MODULE HD80 (RMA)	V
4	85.WA123G050	D1	SCREW PAN TOP M3x5	

Buy Assy Top Cover



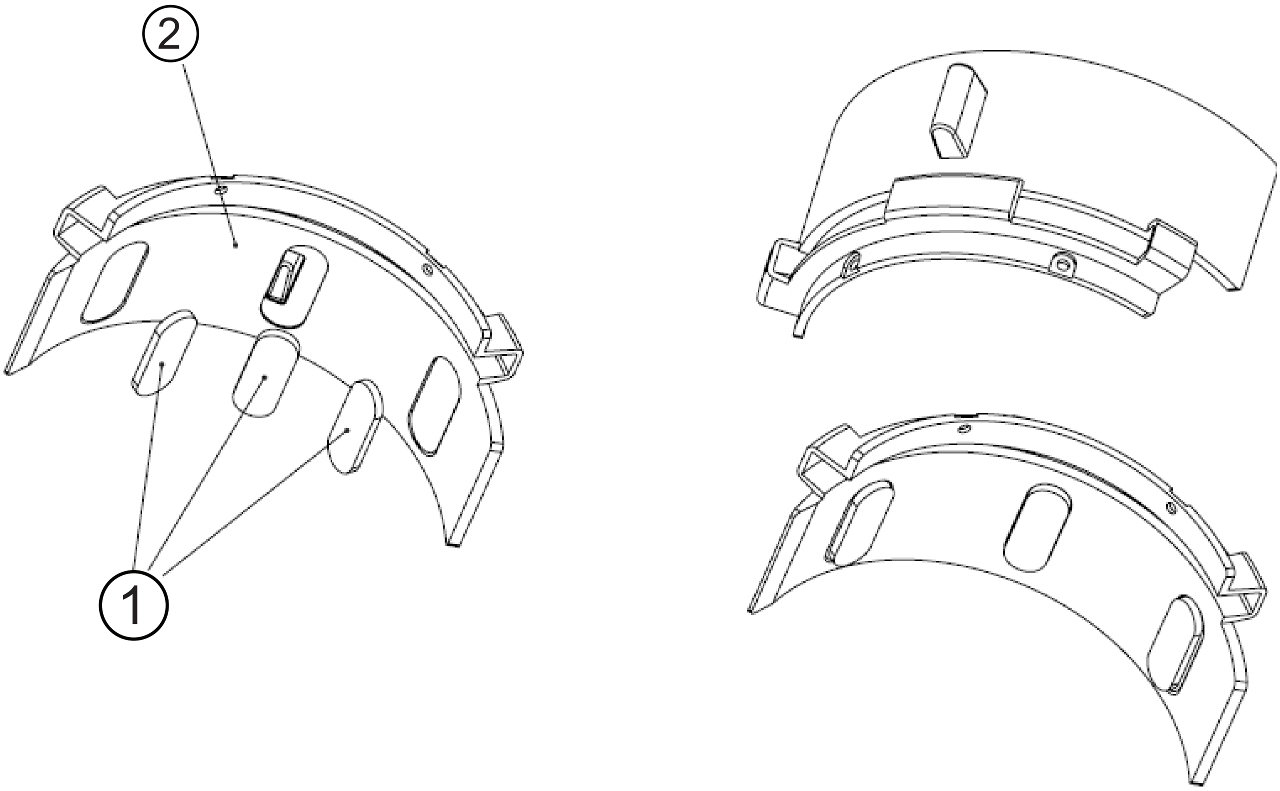
item	P/N	Rev	Description	Parts Supply
1	70.87Z23GR01	A	ASSY TOP COVER MODULE HD80 (RMA)	V
2	51.83C10G001	A	FRONT IR COVER EP910	
3	61.83C07G001	A	TOP COVER SHIELDING	

Lamp Cover Module



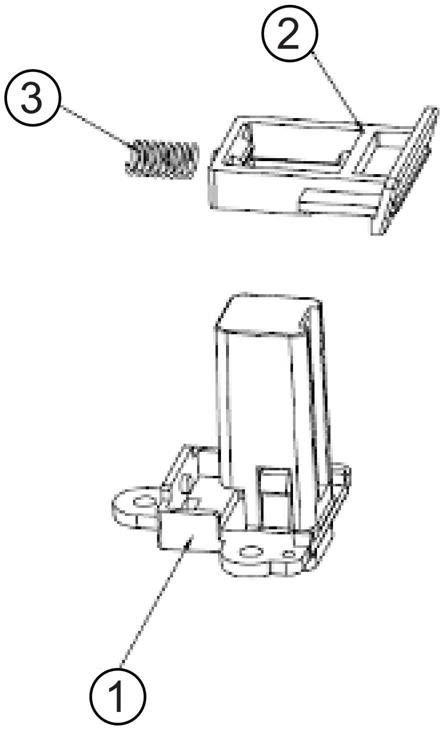
item	P/N	Rev	Description	Parts Supply
1	61.83C20G001	A	AL SHIELDING 0.1t FOR LAMP COVER EP910	
2	70.83C25GR01	A	ASSY LAMP COVER MODULE EP910 (RMA)	V
3	41.82G12G002	A	EMI GASKET W10*L20*H2.5mm	

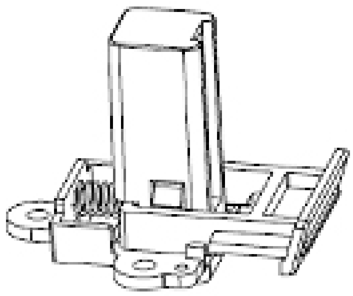
Buy Assy Zoom Ring



item	P/N	Rev	Description	Parts Supply
1	51.82B40G001	A	ZOOM RING SPACER TEFLON 5100MP	
2	75.85H02G002	A	BUY ASSY ZOOM RING CHROMATE TREATMENT HD81	V

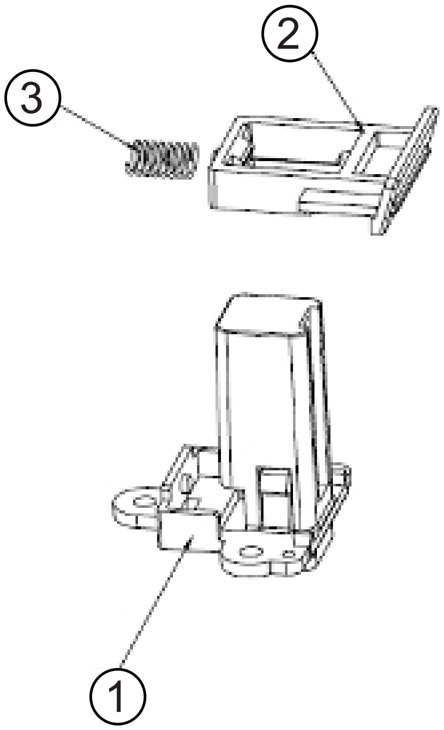
Assy Pre-Elevator Left

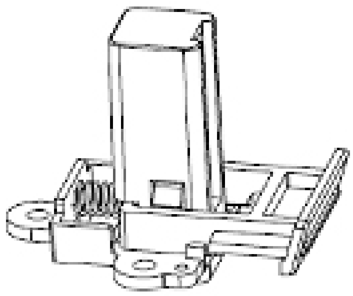




item	P/N	Rev	Description	Parts Supply
1	51.83C17G001	A	ELEVATOR HOUSING	
2	51.83C15G042	A	ELEVATOR PUSH LEFT HD80	V
3	61.85913G001	A	ELEVATOR SPRING	

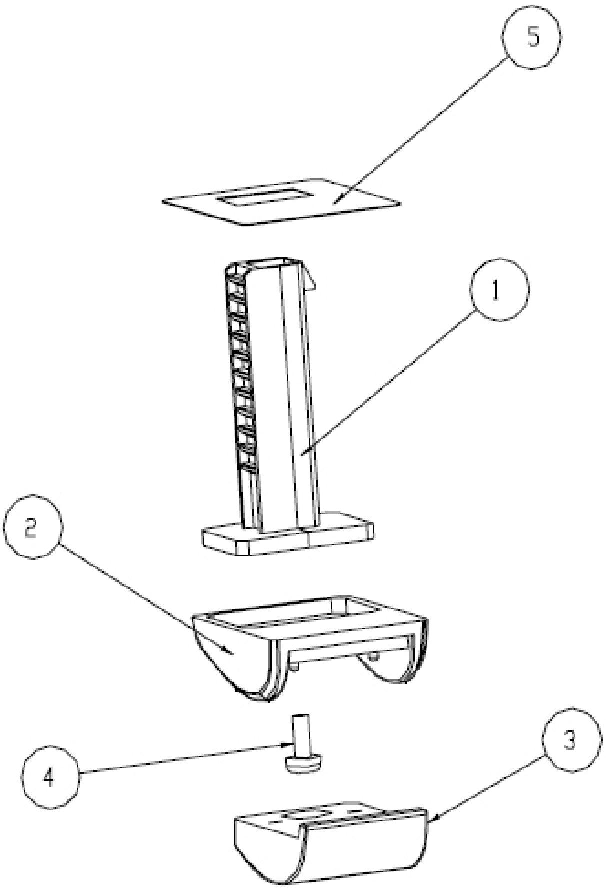
Assy Pre-Elevator Right

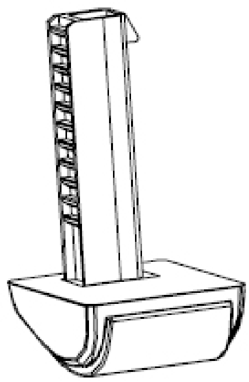




item	P/N	Rev	Description	Parts Supply
1	51.83C17G001	A	ELEVATOR HOUSING	
2	51.83C14G042	A	ELEVATOR PUSH RIGHT HD80	V
3	61.85913G001	A	ELEVATOR SPRING	

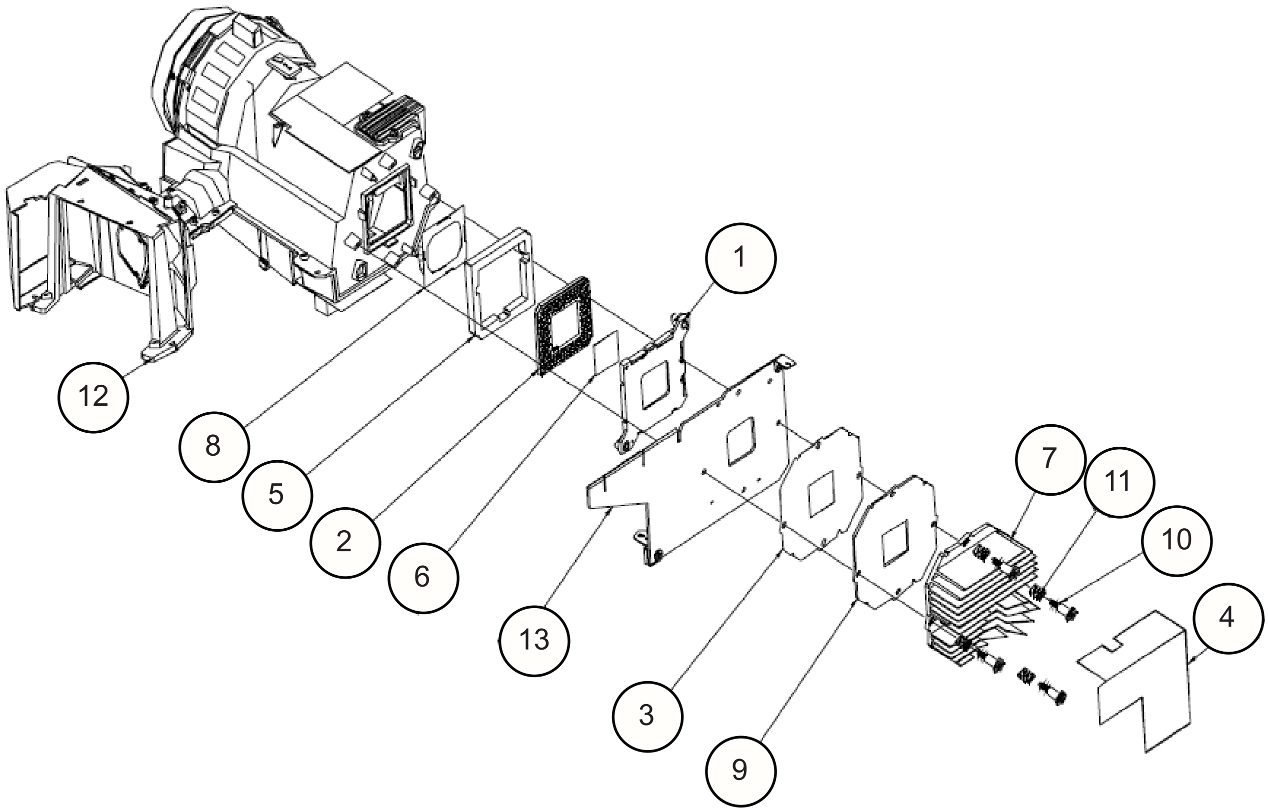
Assy Elevator Foot





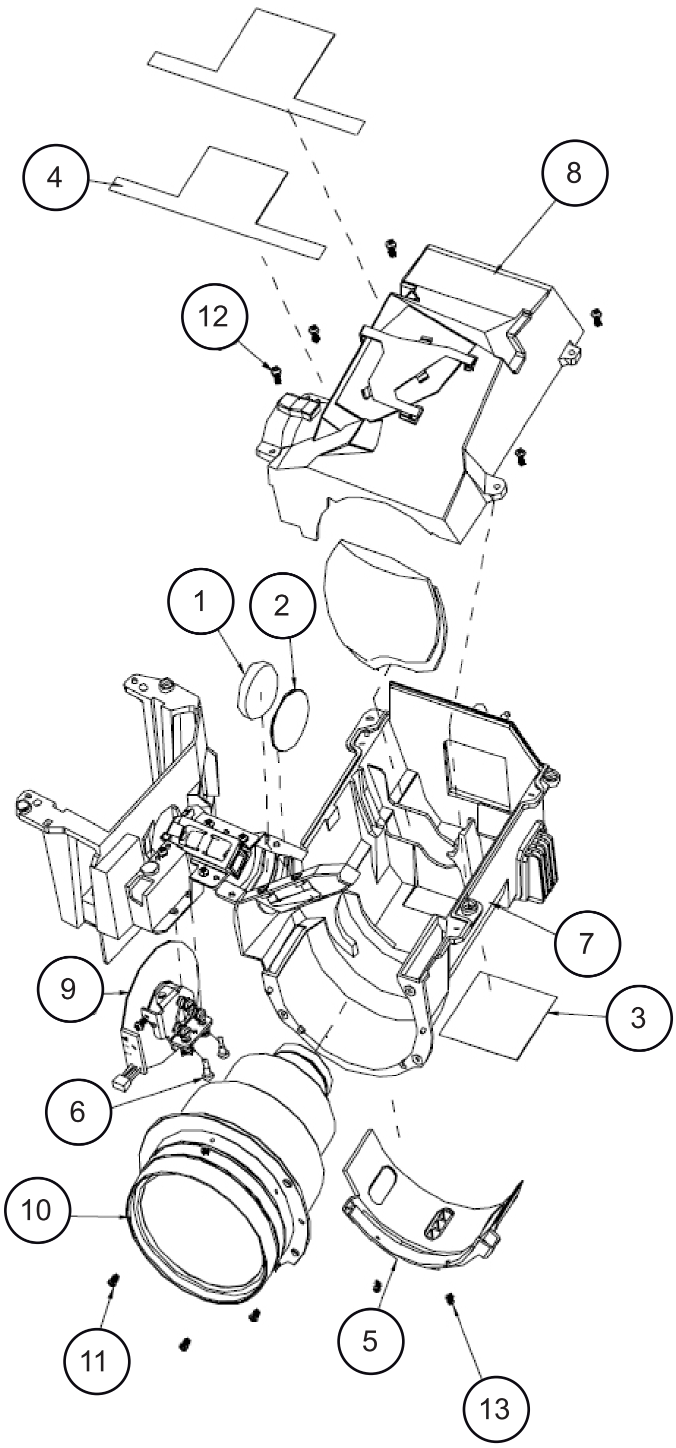
item	P/N	Rev	Description	Parts Supply
1	51.83C16G001	A	ELEVATOR BODY	V
2	51.83C21G041	A	ELEVATOR FOOT PC+ABS HD80	V
3	52.83C03G001	A	ELEVATOR FOOT RUBBER	V
4	85.1F123G060	A	SCREW PAN MECH W\SF M3*6 NI GR	
5	52.83C21G001	A	SILIONE BUFFER 0.1t FOR ELEVATOR	

Assy Optical Engine Module



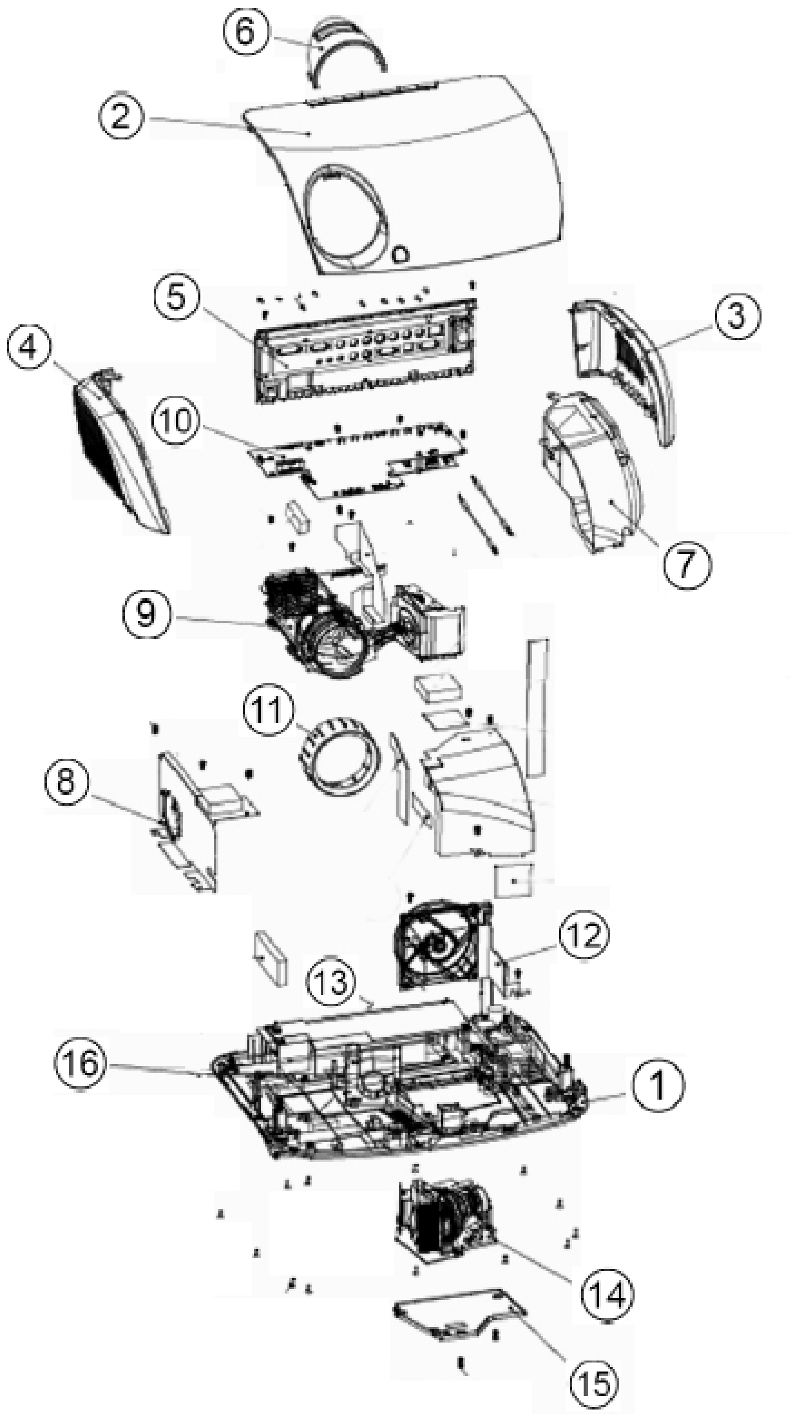
item	P/N	Rev	Description	Parts Supply
1	11.00500G001	A	CNNT 335P DMD LGA SOCKET 1080P HD81	
2	48.87CDMGD01	A	DMD 1920*1080 PIXEL 0.95” 1080P LVDS TYPE A DC2-8	V
	48.87ZDMGD01	A	DMD 0.95” 1080P 2x LVDS DMD DC1-10 FOR SUPER VALUE	V
3	51.85H43G001	A	INSULATOR MYLAR BETWEEN DMD-BD AND HEAT SINK HD81	
4	51.83C30G001	A	MYLAR INSULATION DMD HEAT SINK EP910	
5	52.82B03G001	A	DUST COVER RUBBER F12 5100MP	
6	52.85H11G001	A	SARCON GR-Hm 20mmx15mmx0.3mm DMD THERMAL PAD	
7	61.82B04G001	A	DMD HEATSINK AL 5100MP	
8	61.85H14G001	E	DMD MASK HD81	
9	61.85H34G001	A	DMD-PCB PRESSCOVER HD81	
10	61.82B36G001	A	SCREW M3*10 IHSPC ‘’	
11	61.82B37G001	A	HEAT SINK SPRING	
12	70.87Z11G001	A	BUY ASSY OPTICAL MODULE HD80	
13	70.87Z02G001	A	ASSY DMD BOARD MODULE HD80	

Assy Optical Module



item	P/N	Rev	Description	Parts Supply
1	23.82B20G001	A	BK7 CONDENSER-1 FOR SXGA+	
2	23.82B20G011	A	S-TIH6 CONDENSER-2 FOR SXGA+	
3	41.81U02G001	A	EMI TAPE W40*L40mm	
4	41.82B14G001	A	EMI TAPE BMC COVER	
5	75.87Z06G001	A	BUY ASSY ZOOM RING CHROMATE TREAT-MENT HD80	
6	61.00075G001	A	SHOULDER SCREW M2*5φ2.5 *3.3 5100MP	
7	70.85H19G001	A	ASSY ENGINE BASE HD81	
8	70.82B06G001	A	ASSY ENGINE BOTTOM 5100MP	
9	70.87Z40GR01	B	ASSY COLOR WHEEL MODULE HD80-LV (SERVICE)	V
	70.85H24GR01	B	ASSY COLOR WHEEL MODULE HD81(RMA)	V
10	70.82B29G001	A	ASSY LENS MODULE 5100MP	
11	85.0A326G040	A	SCREW DOUBLE FLAT MECH M2.6*4 φ4.5*0.5t BLACK	
12	85.1A126G060	A	SCREW PAN MECH M2.6*6 Ni	
13	85.0A122G030	A	SCREW DOUBLE FLAT MECH M2*3Ni	

D.C.



item	P/N	Rev	Description	Parts Supply
1	75.85H04G001	A	BUY ASSY BASE HOUSING HD81	V
2	70.87Z23GR01	A	ASSY TOP COVER MODULE HD80 (RMA)	V
3	75.85H08G001	A	BUY ASSY RIGHT COVER HD81	V
4	75.85H07G001	A	BUY ASSY LEFT COVER HD81	V
5	75.87Z01G002	B	BUY ASSY REAR COVER MODULE HD80	V
6	51.83C07G041	A	LENS SHELTER HD80	V
7	51.83C36G002	A	TAPE KAPTON-5 FOR AIR DUCT 173*25 EP910	
8	49.83C03G001	A	SUNON 50*10 AXIAL FAN/GM1205PFV3-8A	V
9	70.87Z19GR01	B	ASSY OPTICAL ENGINE MODULE HD80 (RMA)	V
	70.87Z29GR01	A	ASSY OPTICAL ENGINE MODULE HD803 HD800X (WT87 LENS)	V
10	80.87Z06G021	C	PCBA FORMATTER BD 1080P FOR HD80 EMEA	V
	80.87Z06G031	A	PCBA FORMATTER BD 1080P FOR HD80 USA	V
	80.87Z06G002	B	PCBA FORMATTER BD 1080P FOR HD803	V
	80.87Z06G003	B	PCBA FORMATTER BD 1080P FOR HD8000	V
	80.87Z06G011	B	PCBA FORMATTER BD 1080P FOR HD80-LV	V
11	51.83C08G012	B	FOCUS RING CLADDING CHROMATE TREATMENT HD81	V
12	49.83C04G001	A	SUNON 9225 AXIAL FAN/KDE1209PTBX	V
13	75.85H14G001	A	ASSY LVPS LITEON HD81	V
14	SP.83C01G001	A	LAMP MODULE EP910	V
15	70.83C25GR01	A	ASSY LAMP COVER MODULE EP910 (RMA)	V
16	49.82B01G001	A	MISC BLOWER GB1206PTV2-AY R TYPE	V

Appendix B

I. Serial Number System Definition

Serial Number Format for HD80 Series

O	87Z	7	04	E	AAAA	C	0001
1	2	3	4	5	6	7	8

1	:	**O = Optoma**
2	:	**87Z = Project code**
3	:	**7 = Last number of the year (ex:2007 = 7)**
4	:	**04 = week of the year (ex: the forth month of the year = 04)**
5	:	**E = Checking EDID code (“E” = EDID code is for EMEA)**
6	:	**AAAA = not-defined**
7	:	**C = Manufacture factory (TW or CPC)**
8	:	**0001 = Serial code**

EX: O87Z714AAAAAC0001

This label represents the serial number for HD80. It is produced for USA at CPC on fourteenth week of 2007. Its serial code is 0001.

I. Serial Number System Definition

Serial Number Format for HD80-LV Series

Q	87Z	8	09	AAAAA	C	0001
①	②	③	④	⑤	⑥	⑦

① : **Q = Optoma**

② : **87Z = Project code**

③ : **8 = Last number of the year (ex:2008 = 8)**

④ : **09 = week of the year (ex: the ninth month of the year = 09)**

⑤ : **AAAAA = not-defined**

⑥ : **C = Manufactory Location (ex: C = China)**

⑦ : **0001 = Serial code**

EX: Q87Z809AAAAAC0001

This label represents the serial number for HD80-LV. It is produced for USA at CPC on ninth week of 2008. Its serial code is 0001.

I. Serial Number System Definition

Serial Number Format for HD803-LV Series

Q	87Z	8	09	AAAAA	C	0000
①	②	③	④	⑤	⑥	⑦

① : **Q = Optoma**

② : **87Z = Project code**

③ : **8 = Last number of the year (ex:2008 = 8)**

④ : **09 = week of the year (ex: the ninth month of the year = 09)**

⑤ : **AAAAA = not-defined**

⑥ : **C = Manufactory Location (ex: C = China)**

⑦ : **0000 = Serial code**

EX: Q87Z809AAAAAC0001

This label represents the serial number for HD803-LV. It is produced for USA at CPC on ninth week of 2008. Its serial code is 0000.

II. PCBA Code Definition

PCBA Code for Projector

A	B	XXXXXXXXXX	C	XXX	EEEE
①	②	③	④	⑤	⑥

① : ID

② : Vendor Code

③ : P/N

④ : Revision

⑤ : Date Code

⑥ : S/N